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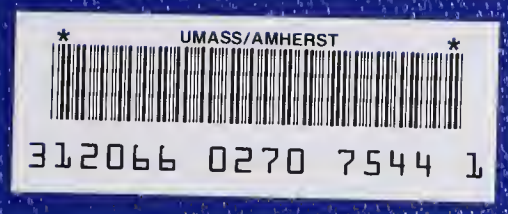

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CABLE TELEVISION

COMMISSION

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PREFACE

SHOULD WE GRANT A CABLE TV LICENSE? This report is concerned with the experiences every community must encounter in answering that question. Our main concern is to analyze the procedural steps required in Massachusetts before a cable license is granted, within an overall perspective of cable technology and governmental regulation.

The report is divided into five parts. Part I, "What Is Cable?" is a brief overview of the cable industry. Part II, "Who Regulates Cable?" is an introduction to government regulations--local, state, and federal. There are aspects of the cable process which are decided locally. Other regulations are determined by state and federal governments. Every community must operate within this framework.

Part III, the main body of this report, analyzes cable regulations and laws in a question-and-answer format. We begin with questions concerning the status of licenses granted prior to March 20, 1973, when the state issued its procedural regulations on cable licensing, and with renewals and trasnfers. We then turn to new licensing procedures, which we have divided into four areas of concern and time sequence as follows: Beginning the Licensing Procedure; The Cable Advisory Committee; The Provisional License; The Final License.

Where applicable, state and federal regulations are cited. When an issue is raised which calls for community decision, it is flagged. Pertinent considerations are presented, but not answers, which are a local responsibility. You will need to carry the process further by consulting knowledgeable individuals or referring to in-depth material on any particular matter.

In Part IV, "Documents," you will find the state legislation governing cable, Chapter 166A of the Massachusetts General Laws and Chapter 1103 of the Acts of 1971, and the state commission's Procedural Regulations for Granting CATV Licenses. It will be helpful to refer to these documents as you read Part III.

Part V, "Appendixes," contains flow charts and time charts graphically representing the procedural regulations discussed in the question-and-answer format. Additional assistance and reading material is included in the RESOURCE LIST, a compilation of reference sources and background materials in the cable field. In particular, we strongly recommend A Handbook for Decisionmaking, by Walter S. Baer, one of a series of reports on cable prepared by The Rand Corporation. A GLOSSARY is offered to be sure that we are all talking about the same thing, and an INDEX for ready reference is also provided.

Cable has the potential for extending and widening people's choices. It is an important means for originating and distributing communications services of all kinds--entertainment, informational, and educational. Cable can be local and specialized, and at the same time general and nationwide. It can provide two-way service--digital, aural, or audiovisual--where demand for such services exist.

To ensure that the benefits of cable are realized requires active participation by the citizens and officials of each community, as well as the best efforts of cable operators and of concerned private and governmental organizations. We hope this report will be a useful guide in pursuing this goal.

A cautionary note is in order. The licensing and subsequent regulation of cable involve highly complex legal and technical issues. No booklet can serve as more than an introduction to the resolution of these issues. If at all practicable, a community that decides to grant a cable license should have the expert assistance of a communications lawyer or cable consultant. The services of such experts are not inexpensive, but without such aid, the local community is likely to be at a considerable disadvantage in negotiating with a cable company. The company will have at its disposal highly knowledgeable advisors on the legal, technical, financial, and other aspects of cable operations. Therefore, we emphasize that communities cannot afford to undertake cable licensing without expert assistance.

PART I

WHAT IS CABLE?

General

Cable, or community antenna television, expands the resources for public communication. It is a system of wiring homes, schools, offices, and other places to transmit a variety of communications services. These currently include broadcast television, FM radio, and automated news, weather, and stock market reports. The television pictures shown on cable are usually sharper and contain less interference than those offered by regular, over-the-air stations. This is particularly important for homes with color and UHF sets. In the future, cable has the potential to furnish many other services, including burglar and fire alarm warnings; shopping and banking transactions; computer-assisted, interactive data transmission; polling; and video recordings. The availability of these and further potential uses of cable depend on developments in technology, and the public's willingness to pay for the services.

Cable began in 1948 to bring over-the-air television programs to communities unable to receive TV by ordinary means. It has extended and expanded so that currently there are 3,045 cable systems with about 7,750,000 subscribers.

Cable service is available throughout the United States, in towns and cities from the smallest to the largest. Presently, it is predominant in small towns and rural areas. The average number of subscribers per system currently is less than 2,000.

In Massachusetts, 65 communities had ongoing cable systems as of February 1974, out of a total of 351 cities and towns. Another 35 had issued licenses, but the cable systems were not yet in operation. The maximum charge allowed by Massachusetts law is $7 per month per subscriber (though this rate ceiling may be subject to change after November 16, 1974). Additional charges may be made for installation, multiple outlets, converters, and specialized programs.

Technology

Cable is similar to the telephone: the signals travel over wires, or coaxial cable, and an individual line is brought into the home and physically connected to the TV set.

A cable system usually has the following components: a high tower and receiving antenna designed to capture the signals of local and nearby TV and FM stations; a headend with stored electronic equipment to process the signals, amplifying them and reducing interference; a main trunk line over which the signals are transmitted, with amplifiers connected at intervals to maintain adequate signal level; associated equipment including feeder lines extenders, and taps which carry the signals from the main trunk down

individual streets to subscriber homes or buildings; and a studio with cameras, tape recorders, film chains, lighting equipment, and other facilities. In some cable systems, television-set converters are supplied to individual homes to permit reception of a larger number of channels and to facilitate special services. A cable system may also own, or rent, microwave equipment to bring in TV programs from distant cities, or within the local community to relay a program from a particular point to the headend for distribution over the system. Pages 3a-3b illustrate pathways of a cable system.

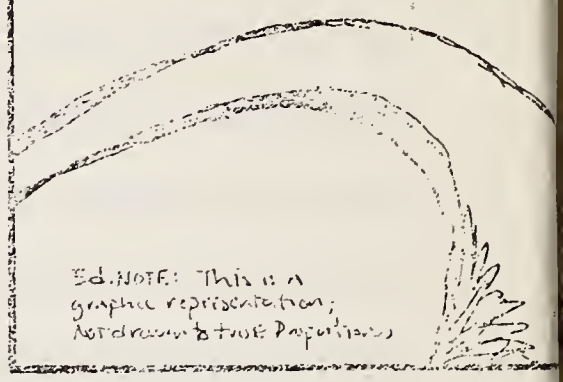
Cable is often referred to as a broadband system. One cable TV channel, for example, can transmit as much information in the same length of time as 1,500 to 2,000 voice-grade telephone lines.

Cable currently operates as a one-way system: from the headend, along the trunk lines and associated equipment to individual subscribers, in a "one-to-many," or "downstream" model. It is within the scope of the technology to equip cable systems for two-way operation, permitting return, or "upstream" channels equipped for digital (i.e., a yes-no signal), voice, or audiovisual communication. By use of associated equipment, any cable channel (6 MHz wide) can be subdivided into multichannels for sending written or graphic materials, FM radio service, or signaling impulses. It is possible, with the use of special machines in the home or

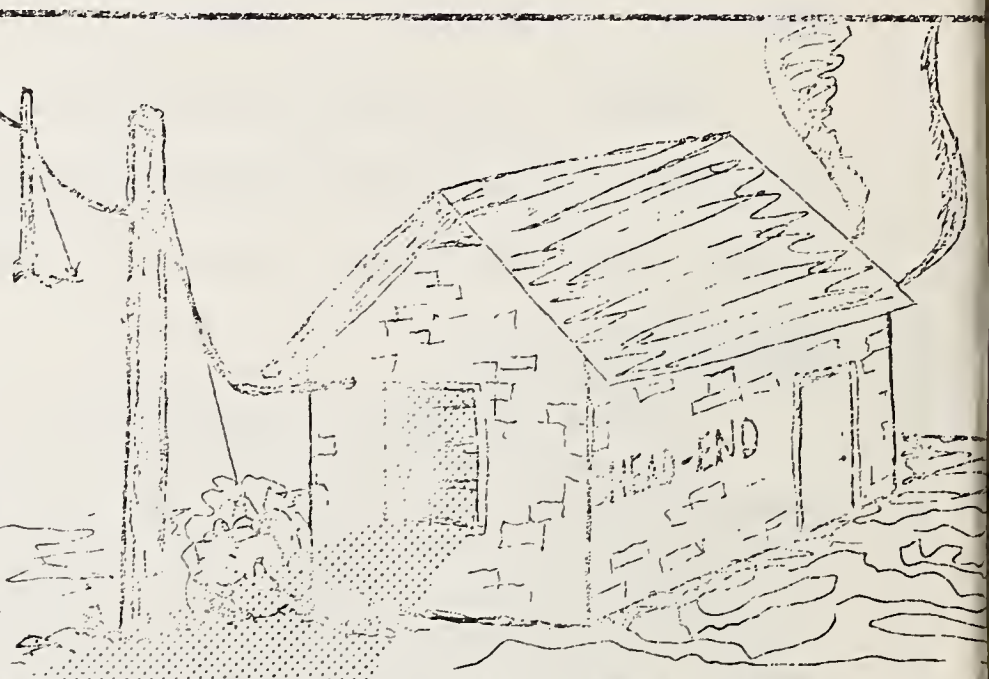
A CATV SYSTEM HAS FOUR BASIC COMPONENTS: THE HEAD-END, THE ANTENNA, THE DISTRIBUTION SYSTEM, AND THE DROP.

THE ANTENNA RECEIVES BROADCAST SIGNALS JUST AS THE HOME RABBIT-EARS DOES. IT IS PLACED TO RECEIVE THE MAXIMUM NUMBER OF CHANNELS WITH CLARITY. THE ANTENNA IS USUALLY CENTRALLY LOCATED TO MAKE DISTRIBUTION OF THE CABLE EASIER.

FROM THE ANTENNA, THE SIGNALS ARE SENT THRU A WIRE TO THE HEAD-END.



AT THE HEAD-END, THE SIGNAL IS RECEIVED FROM THE ANTENNA AND IS PREPARED FOR DISTRIBUTION TO EACH SUBSCRIBER'S TV. INTERFERENCE IS FILTERED OUT AND THE SIGNALS ARE BROUGHT UP TO PROPER STRENGTH. SOME SIGNALS ARE CONVERTED TO MORE USEABLE FREQUENCIES. THEN THE SIGNALS ARE PREPARED TO BE SENT OVER THE CABLE. IN ADDITION, THE HEAD-END MONITORS ALL OF THESE FUNCTIONS TO INSURE THAT SIGNAL QUALITY IS MAINTAINED.



1. FILTER OUT INTERFERENCE
2. BOOST SIGNAL STRENGTH
3. CONVERT SIGNALS
4. PREPARE SIGNALS FOR DISTRIBUTION
5. MONITOR ALL FUNCTIONS

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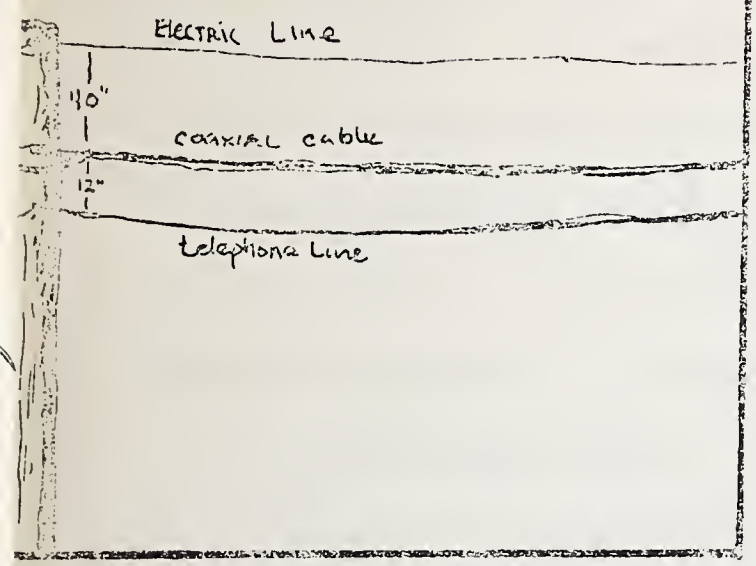
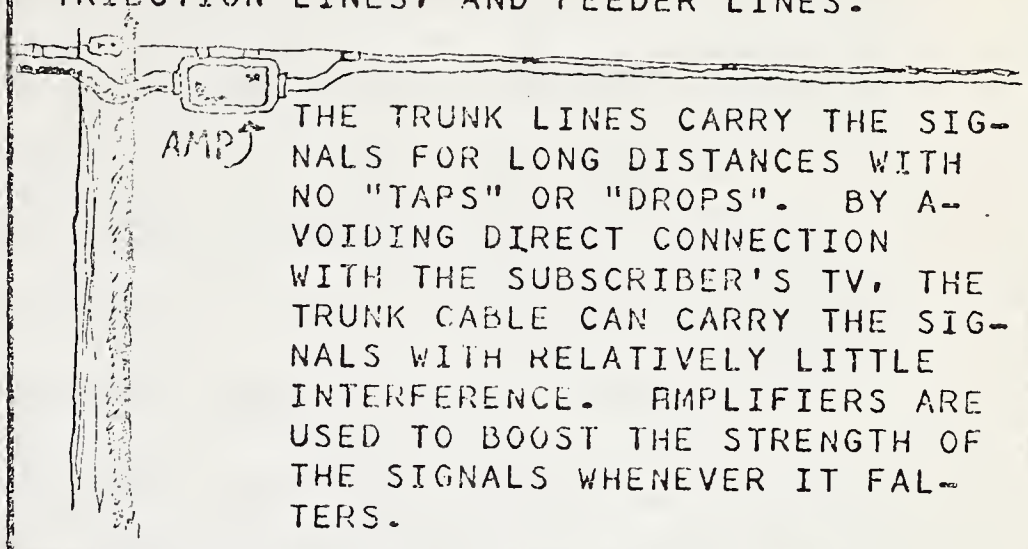
TO INSURE SIGNAL QUALITY
HTHROUGHOUT THE SYSTEM, SPACE
RMUST BE LEFT BETWEEN THE
ABLE AND OTHER UTILITY LINES.

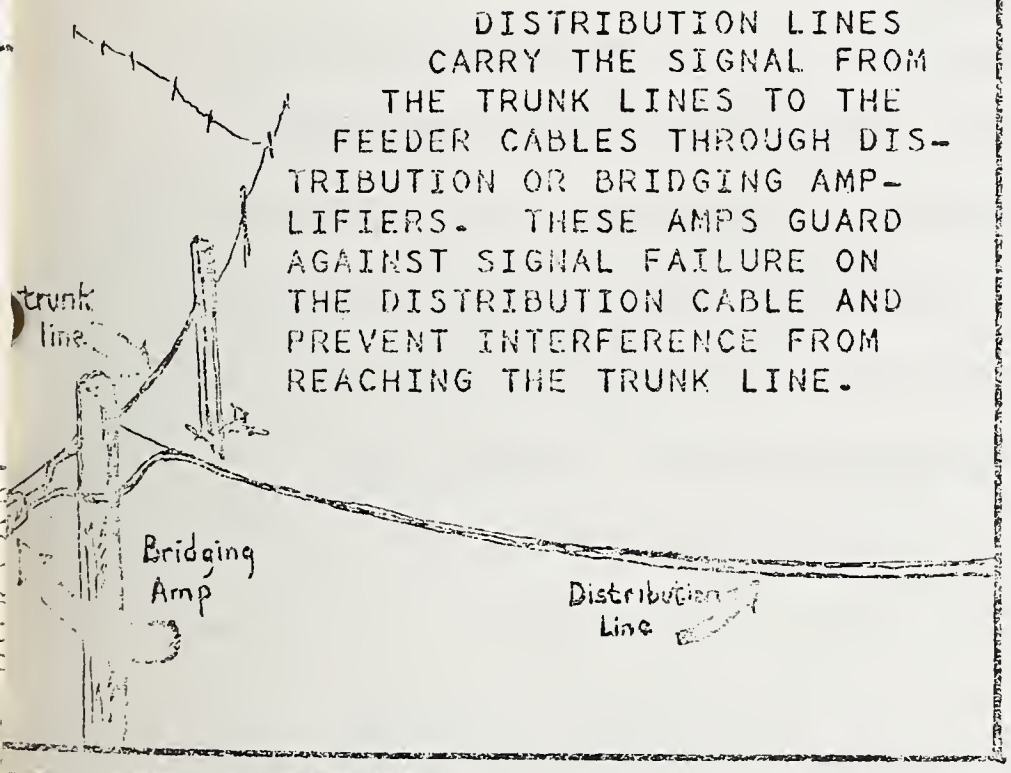


THE WIRE THAT CONNECTS THE HEAD-END AND THE SUBSCRIBER'S TV SET IS CALLED COAXIAL CABLE. IN A CATV SYSTEM, THERE ARE THREE DIFFERENT TYPES: TRUNK LINES, DISTRIBUTION LINES, AND FEEDER LINES.



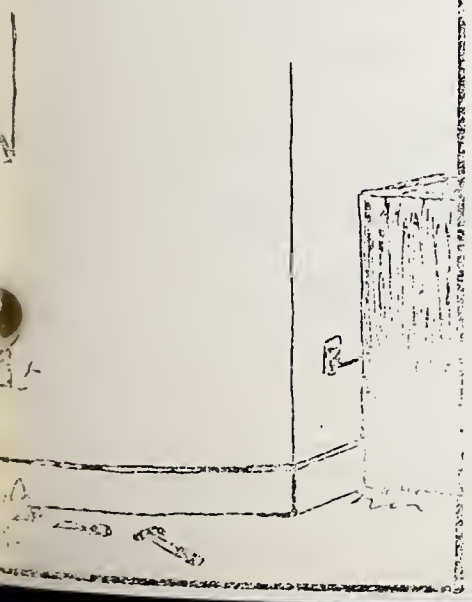
THE TRUNK LINES CARRY THE SIGNALS FOR LONG DISTANCES WITH NO "TAPS" OR "DROPS". BY AVOIDING DIRECT CONNECTION WITH THE SUBSCRIBER'S TV, THE TRUNK CABLE CAN CARRY THE SIGNALS WITH RELATIVELY LITTLE INTERFERENCE. AMPLIFIERS ARE USED TO BOOST THE STRENGTH OF THE SIGNALS WHENEVER IT FALTERS.

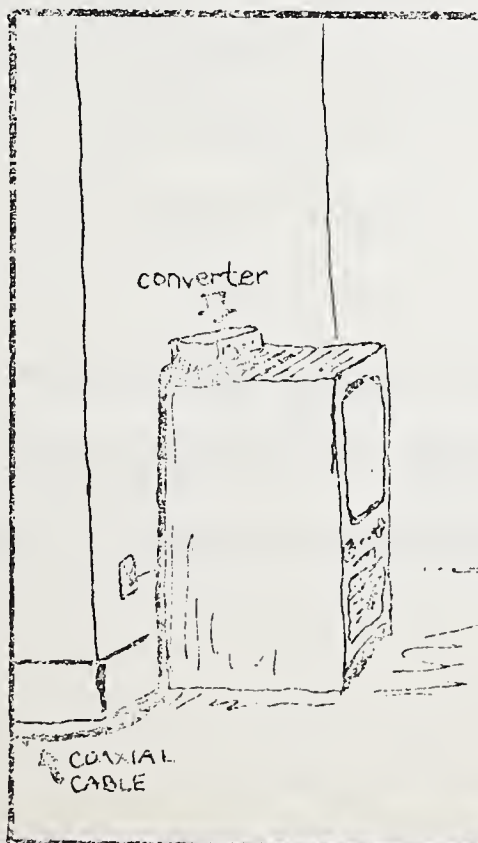
DISTRIBUTION LINES CARRY THE SIGNAL FROM THE TRUNK LINES TO THE FEEDER CABLES THROUGH DISTRIBUTION OR BRIDGING AMPLIFIERS. THESE AMPS GUARD AGAINST SIGNAL FAILURE ON THE DISTRIBUTION CABLE AND PREVENT INTERFERENCE FROM REACHING THE TRUNK LINE.



THE DROP LINE CARRIES THE SIGNAL INTO THE SUBSCRIBER'S HOUSE.

A CABLE IS THEN INSTALLED LEADING DIRECTLY TO THE SUBSCRIBER'S TV.





A CABLE TV SYSTEM IS, MOST SIMPLY, A WAY OF CONNECTING TWO OR MORE PLACES WITH A WIRE. TODAY, THAT WIRE IS BEING USED TO DISTRIBUTE BROADCAST TV SIGNALS. IT CAN JUST AS EASILY BE USED TO RECEIVE ANY MESSAGE, OR SEND ANY. IN SHORT, IT IS A SMALL COMMUNICATIONS NETWORK. PRESENTLY, THE ONLY PEOPLE USING IT ARE CABLECASTERS.

office, to obtain "hard" typed copies of any transmitted writing, drawings, or photographic messages.

In the near future it is likely that cable services will consist of one-way operation and, to a limited degree, two-way digital service.

Cable is also related to broadcasting. It can retransmit television signals captured from over-the-air stations, originate television programs in its own studios, or distribute filmed or taped programs acquired from outside sources. But cable differs from broadcasting: it does not operate through the air and therefore does not require broadcast frequency spectrum; it can provide two-way or interactive service; and it can use many channels in one system side-by-side without interference. At present, more than 20 channels can be furnished feasibly in each system, and the number will increase.

Costs

Cable is a high cost, capital intensive, industry. A modern 20-channel system will cost hundreds of thousands of dollars in a town, and several millions in a city. The costs of wiring Boston, for example, might well exceed $25 million.

For economic success, a cable system must have a "penetration" ratio of at least 30-40 percent. This refers to the percentage of householders "passed" by the cable

system who agree to subscribe and pay the regular monthly fee. The minimal, required penetration ratio will vary depending on the density of households per mile of cable and the number of miles that must be strung. Various econometric models have been prepared by research organizations, as well as by larger cable companies, to relate costs, revenues, and profits under varying assumptions.

Cable is supported by subscribers who pay between $4 and $7 monthly for basic service. There are additional charges for installation, which range between $10 and $20, although during promotional periods the installation may be offered free or at a nominal price. If a second TV set is hooked up, the monthly charge is likely to increase $1-$2. When a converter is installed to pick up additional channels, the monthly rental rate may be approximately $2. Pay-TV service, when offered, is priced separately for individual programs (such as movies and sports), or for a monthly package.

Other potential sources of revenue to support cable include advertising and channel leasing. Neither is a significant money source at present.

Cable Today

Aside from the blue-sky potential of future cable development, it is important to know what cable can do today for a community. The value of cable lies in its service to the community--widening the public's choices of entertainment

and informational programs, serving as a local forum for the citizenry, and aiding the work of schools, firemen, police, hospitals, and other local agencies.

Cable means more and better TV broadcast service. It can bring in the usual broadcast signals sharper and clearer. Also, cable can import some stations from other cities that cannot be received with the regular home antenna.

Cable means local services: local news and sports; a public access channel, for use by individuals or groups within a community to reach into the homes of townspeople, via television; a channel for schools; a channel for the use of local government, as well as automatic time, weather, and stock market reports, and FM radio service. And, in some cities, cable has begun to offer pay-TV service (movies, sports, etc.) at a special fee.

However, cable is <u>not</u> a source of revenue to communities. The cable operator pays the city property taxes as any other private enterprise, and, in addition, a special annual fee, but this fee is intended only to help defray the cost of regulating the system.

PART II

WHO REGULATES CABLE?

Overview

Cable is an industry "affected with the public interest." It uses public streets and ways, and has the characteristics of a "natural" monopoly. As with broadcasting, telephone, and other telecommunications services, a cable system has certain responsibilities and rights which differentiate it from a purely private company, and these are spelled out in governmental regulations, statutes, and court cases. In general, its status currently is a hybrid between that of a broadcaster and of a telephone company.

A cable system operating in the Commonwealth is regulated at three governmental levels: local, state, and federal.

The main process of negotiating and issuing a cable license takes place at the local level. Municipal authorities decide whether to give any license at all, and if so, to whom. In negotiating the terms of a license, each community has latitude, subject to state and federal regulations, to select or design the type of cable system that will best fit its needs.

The procedures to be used by a community in granting a cable license have been established by state law and regulations. These require the "issuing authority" (mayor, city

or town manager, or board of selectmen) first to decide whether to begin the licensing process. If the decision is in the affirmative, a cable advisory committee must be appointed. The committee studies cable and recommends the type of license to be issued. The committee's report is given to the issuing authority which, in turn, writes its own report. Applicants are then considered in a public, competitive hearing and a provisional license is granted. The provisional licensee must then show he can do what he promised in his application. If he succeeds, he receives a final license.

Specific time limits are established, pursuant to state regulations, for each stage of the licensing process. These are shown in flow charts in Appendix 1. To minimize the effect of the time constraints, or to speed the licensing process once initiated, communities may wish to begin immediate study of cable.

The state rules place primary emphasis on public hearing and public involvement. Not only in the initial licensing, but in almost every phase of cable regulation--renewals, transfers, rate adjustments--state regulation is being designed to encourage public scrutiny and the direct involvement of local officials and local citizenry in the oversight of cable systems.

Cable is governed at the state level by Chapter 166A of the Massachusetts General Laws, adopted November 16, 1971.*

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*Chapter 166A was inserted into the General Laws by Chapter 1103 of the Acts of 1971. Chapter 1103 also contained

This law established specific guidelines for cable development, and named the Massachusetts Community Antenna Television Commission to serve as the state regulatory agency. The commission is directed to hear appeals, to undertake investigations as necessary, and to establish rules and regulations affecting both the procedural and substantive aspects of local licensing. The commission is specifically excluded from granting any license, but it, as well as the municipality, may revoke a license for due cause.

Federal regulation is exercised by the Federal Communications Commission (FCC). Effective March 31, 1972, the FCC established a comprehensive framework of rules governing the cable industry, encompassing six major categories. These relate to carriage of broadcast television signals, program exclusivity, cablecasting and channel capacity, role of state and local authorities, technical standards, and operating requirements and related matters.

Among the major provisions of the FCC rules as they affect cable at the local level are the following:

1. Carriage of local broadcast television signals. A cable system is required on request to rebroadcast all of the television stations operating in its "market." Markets, defined by the FCC, include the cities in which TV stations

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certain "emergency" sections to provide for the immediate regulation of existing licenses and certain other aspects of cable in the transition period before the commission actually began functioning.

are located and the service area of these stations (all communities within 35 miles of the station). The markets are ranked in descending order of population. TV stations in four of the top 50 markets blanket almost all of Massachusetts: Boston-Cambridge-Worcester; Hartford-New Haven-New Britain-Waterbury, Connecticut; Providence, Rhode Island-New Bedford, Massachusetts; and Albany-Schenectady-Troy, New York. A cable system within 35 miles of any of these markets must retransmit all broadcast television signals originating within that market.

Additionally, a cable system is required on request to carry television stations "significantly viewed" in the local community according to county-by-county listings set forth in FCC rules.

2. Importation of "distant" signals. After carriage of local signals, the FCC permits carriage of distant signals to bring the number and types of signals available on the cable up to quotas determined by the size of the local television market. The quota for the top 50 major markets includes three full network stations, three independent (non-network affiliated) stations, and any number of non-English language stations. In addition, public TV stations, and two independent commercial TV stations may be imported. Cable systems operating within 35 miles of the Boston-Cambridge-Worcester market, for example, may bring in two commercial stations from New York.

3. Cablecasting. Any cable system may produce its own programs, or acquire programs from other sources for local cablecasting. The FCC had ruled that a cable system with more than 3,500 subscribers must serve as a local outlet (that is, cablecast programs of local interest), but this rule is currently not being enforced subject to FCC reconsideration.

In addition to any origination channel, each cable system in the top 100 markets must make available channels for "access cablecasting," as follows:

(a) At least one "public access" channel, available without charge to any one on a first-come, first-served, nondiscriminatory basis;

(b) At least one "education access" channel for use by local educational authorities;

(c) At least one "local government access" channel; and

(d) "Leased access channels" for the remainder of the cable system's channel capacity.

Whenever existing access channels reach specified usage levels, additional channels above these minimums must be provided. This is a highly significant regulation. At the start, a cable plant may have more channels than the operator can use or lease, and this may encourage demands for setting aside unused channels on a free basis for various future uses. However worthwhile the purpose, such free channels are a cost to the operator and to subscribers, and may hamper the economic

growth of cable service as demand increases. The FCC regulation seeks to resolve the dilemma. It encourages cable to expand its channel capacity as actual usage grows. At the same time, it protects cable at the start from the economic burden of excessive free channels.

4. Channel capacity. The FCC's rule for minimum channel capacity in the major markets requires that at least 20 TV channels be "available for immediate or potential use." For every TV broadcast signal retransmitted, an equivalent channel must be available for nonretransmission or cablecasting service. Another rule requires that cable systems in the major markets must provide "technical capacity for nonvoice return communications," i.e., a "yes-no" digital response capability. This is the only two-way service currently mandated.

5. Quality of service. So far the FCC has established technical standards only for the channels used to redistribute broadcast TV programs. It calls for annual performance tests by cable operators in the major markets to assure compliance with these standards. After additional experimentation, the FCC is likely to expand the scope of its technical standards.

6. Existing and new systems. The above regulations apply particularly to cable systems authorized after March 31, 1972. Systems authorized, or in operation, prior to that date are "grandfathered" under pre-existing rules. A grandfathered system does not have to comply with the new FCC requirements

until (1) the end of its license term or March 31, 1977, whichever comes first; or if (2) it adds new broadcast TV signals or extends its service area.

7. Certificate of Compliance. After March 31, 1972, a cable operator may not carry broadcast signals until he has applied for and received an FCC certificate of compliance. Before granting the authorization, the FCC ascertains that the license is in accordance with federal requirements and guidelines, and considers objections which may be filed against the grant of the certificate.

PART III

QUESTIONS AND ANSWERS

General Information

Granting the original license, or franchise, is the most important decision that a community can make in regard to cable service. Effective March 21, 1973, the Massachusetts commission adopted a set of regulations governing all new applications for original licenses (i.e., exclusive of recertification, renewal, or transfer applications). The rules were designed, in accordance with Chapter 166A, to encourage orderly procedures, ensure due process, and stimulate public involvement in the planning of cable service at the local level. These procedural regulations are binding on all municipalities of the Commonwealth.

The license agreement contains the specific rights and obligations of the cable operator and of the municipality, including rates, services, channel capacity, and guarantees. These terms are likely to be binding for the duration of the original license, up to a maximum of 15 years. Every community must exercise utmost care in developing and reviewing the license to ensure that it includes sufficient flexibility and safeguards to serve immediate and future needs. A study of cable licenses already granted by municipalities in the Commonwealth, or in other states, and discussions with

officials in these cities may be helpful. Also potentially useful is the examination of "model" franchises, contained or referred to in the readings listed in the Appendixes.

1. Which Massachusetts communities now have operating cable systems?

   As of February 1974, there were 65 operating systems in the Commonwealth. These included, for example, Barnstable and Dennis in Barnstable County; Adams and Pittsfield in Berkshire County; Haverhill in Essex County; Burlington, Malden, and Woburn in Middlesex County; Revere in Suffolk County; and Athol, Leominster, and Worcester in Worcester County. (See Cable in Mass. 2, item 6a in the Resource List of Appendix 3 for the status of cable as of mid-1972.)

2. Who is authorized to issue cable licenses?

   Under Chapter 166A, Section 1(d) the following are designated as the "issuing authority": the city manager of a city with a plan D or E charter, the mayor of any other city, or the board of selectmen of a town. The issuing authority decides whether to issue a license, and selects the licensee.

3. What is the status of systems authorized or constructed prior to November 16, 1971 (i.e., prior to Chapter 166A)?

Presumptively, they are entitled to "grandfathered" status, i.e., to retain an outstanding license or permit. The existing licensee must, however, apply for and receive a "recertified" license from the local issuing authority, which shall be in conformity with all Massachusetts statutory and regulatory law. The new license shall not run more than 15 years from the date it is issued, but may be renewed. (See Chapter 1103, Section 4.)

4. How does a pre-November 1971 system obtain a recertified license?

The cable operator must complete the official application form (#100), which has been prescribed by the state commission, and file copies with the local originating authority and the state commission (no application fee is required). The application is a public document, available for inspection by anyone in the community. The cable system must also submit a bond to the issuing authority in an amount sufficient to assure the issuing authority that all terms of Section 5(k) of Chapter 166A will be met.

5. May the issuing authority refuse to grant a recertified license?

Yes, if the issuing authority rules that the existing licensee or permittee failed to meet the requirements established in the earlier license or permit, or in Chapter 166A, or if the issuing authority concludes that the earlier license or permit was fatally tainted by illegalities. The governing presumption, however, is that cable systems authorized or constructed prior to November 16, 1971 are grandfathered.

6. Is the recertification process open to competing applicants?

No. The issuing authority may not entertain new applicants for the existing license.

7. What changes in existing licenses are required pursuant to the recertification process?

The new license must be in conformity with the terms of Chapter 166A, and any provision in existing licenses or permits which are inconsistent or in conflict with the Massachusetts statute or regulations or with FCC regulations must be changed. (Chapter 1103, Section 4.)

8. Should the issuing authority seek public participation in the process of recertifying an existing license?

Yes. It is a basic policy of the state commission that

whenever any significant action is to be taken affecting cable, the public should be invited to participate.

9. What fees must be paid by licensee?

For each subscriber on a system, the cable operator pays 50 cents both to the issuing authority, and to the Commonwealth, with a minimum payment of $250 to each. (Chapter 166A, Section 9.) The fee is payable by March 15 of each year and is based on the number of the system's subscribers as of December 31 of the prior year.

10. What report forms must a licensee file?

(a) Financial--A licensee must file annually with the issuing authority and the commission forms #200 and #300. Form #200, which contains standard balance sheet information, must be held open for public inspection. Form #300, the statement of revenues, expenses, and income, is for official use only. (Chapter 166A, Section 8.)

(b) Subscriber complaints--A licensee must file with the issuing authority and the commission copies of forms #500B and #500C every three months. These forms request information on subscriber complaints, and the subsequent action taken by the licensee, including the time required to make any necessary repairs or adjustments. (Chapter 166A, Section 10.)

(c) FCC reports--In addition to the above reports, cable operators must file annual operational and financial data with the federal government. (FCC Forms 325 and 326.)

11. May a license be transferred?

Yes. The transferee must file form #100 (accompanied by a $100 fee payable to the city or town) with the issuing authority and with the commission. The prior, written approval of the issuing authority must be obtained before a transfer or assignment is permitted. The issuing authority must give public notice and invite public participation before granting a transfer application. The consent of the issuing authority to a transfer may not be given if it appears that the consideration being paid includes a substantial payment for the license. Concurrent with the grant or denial of the application, the issuing authority must issue a written public statement explaining the basis for the decision. (Chapter 166A, Sections 7 and 13; Mass. Procedural Rules for Assignment or Transfer of Control of a Final License, adopted December 26, 1973.)

12. May a license be renewed?

Yes, for an additional period not to exceed 10 years. The applicant requesting renewal must file application form #100 (accompanied by the $100 fee payable to the city or town) with the issuing authority and the

commission. The issuing authority must hold a hearing before granting a renewal. (Chapter 166A, Section 13.) Renewal need not be automatic, and the issuing authority, after a hearing, may refuse to renew the license. It may instead issue a license to another applicant.

13. May a license be revoked?

A license may be revoked by the issuing authority or by the commission, after a public hearing. The reasons which may justify revocation are set forth in Chapter 166A, Sections 11 and 14.

14. May more than one license be granted?

Under Chapter 166A, Section 3, cable licenses are nonexclusive. An issuing authority may grant more than one license for the same or for different areas within its jurisdiction.

Stage I: Beginning the Licensing Process

15. What triggers the formal licensing process?

Any one of three events starts the process:

(a) The issuing authority determines and announces publicly that it will consider granting a license; or

(b) An applicant files copies of application form #100 with the municipality and with the state commission (the $100 fee payable to the municipality); or

(c) Registered voters in the community file a petition requesting the issuing authority to initiate the licensing process. The minimum number of voters required are one-half of one percent of the residents in the city or town, but no less than 10 or more than 500. (See state commission procedural licensing rules [hereinafter referred to as Mass. rules, 1.1].)

16. Who is eligible to apply?

With specified exceptions, anyone may apply whether or not a resident of the Commonwealth. Applicants must be prepared to demonstrate their legal, financial, technical, and other qualifications and the adequacy and feasibility of their proposed arrangements for construction and operation.

Those ineligible to apply include the following:

(a) national television networks (ABC, CBS, NBC);

(b) a television broadcast station whose service area

includes the community in which the cable system is to operate;

(c) newspaper media and their affiliates whose major circulation areas encompass the community in which the cable system is to operate;

(d) anyone who applied for a license in the community within the prior 12 months and was denied a license (see FCC rules 76.501, and Chapter 166A, Sections 1(e) and 14); and

(e) telephone companies, whose service area includes the community in which the cable system is to operate.

In addition, a licensee may not engage in the business of selling or repairing television sets.

17. May the municipality itself apply for a license?

Yes, and Chapter 166A, Section 20 requires that if a city or town applies, its application must be treated as any other. The issuing authority must assess fairly and objectively the relative merits of the municipality as against a competing applicant, whether a private company or a nonprofit organization.

18. If the procedural process is triggered by the issuing authority (see Question 15), what is the next step?

The issuing authority appoints a cable advisory committee (CAC) and the licensing process is officially started.

19. If the process is triggered by an application or by the petition of citizens, what follows?

The issuing authority must give public notice and hold public hearings to consider whether to undertake the licensing process. (Mass. rule, 1.2.) If the issuing authority decides not to go ahead with the licensing process, then it must prepare a public report giving reasons for its decision and send a copy to the commission. (Mass. rule, 1.3(a).) Alternatively, if the issuing authority decides to continue the process, it must appoint a cable advisory committee. (Mass. rule, 1.3(b).)

20. If the issuing authority decides against initiation of the licensing process, how soon thereafter can the triggering mechanisms begin again?

Citizens in the community can file another petition at any time, and the issuing authority must repeat the process of public notice, public hearing, and the filing of a report. (Mass. rule, 1.1.) Similarly, the issuing authority may change its mind and begin the licensing process again. A new applicant, not previously before the issuing authority within 12 months of a prior decision not to issue a license, may also reinitiate the process immediately. (Chapter 166A, Section 14.)

21. What are the time limits in the licensing process?

An issuing authority has 60 days from the occurence of any of the initiatives itemized in Question 15 to decide whether to undertake the licensing process. (Mass. rule, 1.3.) If the decision is made to begin the process, the issuing authority must approve or disapprove license applications within 12 months in a city of less than 50,000 residents, and within 18 months in a city of 50,000 or more. (Mass. rule, 1.4.) (See flow charts in Appendix 1.)

22. Are decisions of the issuing authority final?

An applicant may appeal to the state cable commission if the issuing authority denies its application or fails to act within 60 days. (Mass. rule, 1.3(a).) Similarly, appeals to the commission may be filed by voters in the community, by cable subscribers (where a system is in operation), or by the Massachusetts Consumers' Council. The commission can also act on its own initiative, and investigate the granting, renewal, or assignment of a license, or the operation of a cable system. (Chapter 166A, Section 14.) After a hearing, the commission may modify or revoke a license. The commission cannot, however, require the issuing authority to begin the licensing process, nor can it order the local authority to issue a license to a specific

applicant. (Chapter 166A, Section 14.) Any action by the commission is appealable to a Massachusetts court of competent jurisdiction. (Chapter 166A, Section 15.)

Stage II: Cable Advisory Committee

23. How many persons are to be appointed to a cable advisory committee? (reference Question 18)

The procedural regulations do not specify any particular number. The issuing authority may appoint any number it deems desirable.

24. On what basis are appointments to be made?

The issuing authority may choose any individuals it wishes, within or outside the local municipality. However, the regulations require that appointees adequately reflect the social, political, educational, cultural, and economic makeup of the local community. Also, insofar as is practical, the CAC is to contain at least one member knowledgeable in the field of telecommunications. (Mass. rule, 2.1.)

25. What is the job of the CAC?

The CAC is to inform and educate the public about cable, to insure maximum public participation in the licensing process, and to prepare a report, including a general assessment of cable needs of the community and policy recommendations on a list of items specified by the commission. (Mass rule, 2.2.)

The report of the CAC should seek to define licensing specifications in order to guide the issuing authority

and applicants. It should serve to promote meaningful comparison between competing applicants, and to assess various tradeoffs, as between needs and costs of the present as against the future.

26. How is the CAC to inform and educate the public?

That is left to the initiative of the CAC. Possible techniques include holding public meetings, addressing organizations, inviting participation in CAC meetings, seeking the cooperation of local libraries, releasing material to local newspapers and radio stations, and encouraging the local media to discuss the issue.

27. How often is the CAC to meet? Are its meetings public?

The number of meetings is determined by the CAC. Unless executive sessions are required in exceptional circumstances, the CAC should hold public meetings and invite public attendance. In any event, residents and other parties may submit written material, as well as direct oral comments, inquiries, and recommendations to the committee. (Mass. rule, 2.4.)

28. May the CAC seek professional help in preparing its report?

It is anticipated that the CAC will wish not only to use the extensive reports and studies that are available on the subject of cable (see Appendix 3), but to consult

with numerous individuals--officials in communities with operating cable systems, cable operators, representatives of companies manufacturing cable equipment, educators who have studied cable, and citizen committees in other communities. If funds are available, it is strongly urged that professional consultants be used: their advice can be very helpful, particularly on technical and cost factors.

29. May the CAC examine any pending application for a license?

The application is a public document and may be examined by anyone. The CAC may wish not only to examine the application in detail, but to discuss it with the applicant.

30. What are the issues the CAC must consider?

The procedural regulations specify 15 items and any others considered appropriate by a majority of the CAC. (Mass. rule, 2.3.) Following are questions and answers on each of the specified items.

(A) Area or areas to be served.

31. Can a community be divided into sub-areas, with each sub-area served by a different cable operator?

The community has considerable legal flexibility in its

decisions as to the areas to be served by a licensee. Ordinarily, the entire community is licensed as a single unit. However, under Chapter 166A of the Massachusetts law, the area to be served may be divided among more than one license, if the area subdivisions reflect the economic, cultural geographic, and community interests of the citizens. Such subdivision may not be made, according to the FCC, if the effect is to bring cable to the more affluent parts of the community, while denying lower income areas the opportunity to subscribe to cable service. If a community is to be subdivided, serious consideration should be given to the desirability of interconnection between the separate systems, on one or more channels.

32. Do sparsely populated areas require special attention? The fewer the number of households per mile, the less profitable the cable operation becomes. The CAC must consider recommendations to deal with sparsely populated areas or individual homes significantly distant from the cable trunk lines. One of the considerations is the extent and circumstances under which special charges should be levied against such customers.

(B) Types and patterns of ownership and operation.

33. What are the major types of cable ownership, actual and potential?

The most common is the commercial firm, both owning and operating the system. In a few dozen municipalities throughout the nation, the city itself owns and operates the cable system. Other types of ownership that have been proposed include: a noncommercial organization (i.e., a university, a public broadcasting licensee, a professional association), a nonprofit organization (such as a community development corporation), and a cooperative of cable subscribers.

Various combinations of ownership and operation are also possible. A municipality may own the cable system, but employ a private firm or private individuals to operate the system. A private entrepreneur may undertake a joint venture with a noncommercial or nonprofit organization.

(C) Duration of the license.

34. What are the legal limits on the duration of a license?

Under Chapter 166A, Section 3(d), the license term may not exceed 15 years. A license may be renewed for additional periods not to exceed 10 years each. (Chapter 166A, Section 13.)

35. May any commitment be given to a licensee, whether by option or otherwise, beyond the initial 15 year maximum, or the subsequent 10 year maximum renewal periods?

No. Each decision is to be made on its own merits. For example, a provision that would give the licensee an initial term of 15 years and an option for any successive renewal period is contrary to the law. Each renewal period must be considered as a separate action, and the community may not bind itself in advance to guarantee a renewal of a license.

36. What are the policy considerations in determining duration of the initial license and subsequent renewals?

The considerations may include providing sufficient time to permit the cable licensee to amortize his investment, to encourage further investment, and to ensure the licensee's ability to provide the community with the best possible service. The need for a maximum license term may be most acute in a large urban area where the costs of construction are highest and the public has an adequate choice of over-the-air TV service. On the other hand, the CAC must concern itself with the problem of ensuring that the period is not so long that the community suffers from a licensee who is inefficient, under-financed, or unconcerned about serving adequately the needs of subscribers and the community generally.

In balancing these considerations, a CAC may wish to explore the desirability of recommending a less than maximum license renewal term.

(D) Construction schedule to include start and completion dates, rate of construction, problems incident to obtaining pole permits and street, way, duct and other rights necessary for construction.

37. What requirements for construction are set by Chapter 166A?

The licensee must specify start and completion dates of construction, as well as dates on which service will be available in various areas. (Chapter 166A, Section 3.) He must avoid all unnecessary damage and injury to trees, structures, and improvements along the authorized routes, and the licensee must carry insurance covering any such damage. During construction, the licensee must restore any pavements or improvements he disturbs. (Chapter 166A, Sections 5(a), (b), (c), (g).)

38. How soon must construction be completed?

Chapter 166A, Section 5(m) requires that construction proceed at a minimum rate of ten percent per year, and that it be completed within six years after the license is issued. (Chapter 166A, Section 5(n).) The license should specify how this period is to be measured and supervised.

39. Does it make any difference where construction begins in a license area?

The FCC has stated that service must be developed reasonably and equitably. In the license, consideration should be given to specifying the scheduling of wiring for different areas in the community, to avoid discriminatory treatment.

40. Must an entire area be wired?

Under Chapter 166A, Section 5(m) and (n), the license should set out the area or areas to be served, and within six years after the license is granted, wiring of the area is to be completed. Any exceptions should be spelled out in the license (e.g., thinly settled neighborhoods distant from the main trunk line), and the license should specify the conditions under which service to such sections or individuals will be provided by the cable licensee.

41. Is the issuing authority required to monitor construction as it progresses?

There is no specific requirement to do so, but certainly means should be devised for ensuring that the system is built in accordance with license specifications. This may require periodic inspection by a knowledgeable city official, by a professional consultant, or by a citizens' committee.

42. Can a licensee be required to wire public facilities free of charge?

Under Section 5(e) of Chapter 166A, the licensee is required to provide a cable drop and an outlet along its cable routes at no cost to public schools, police and fire stations, public libraries, and other public buildings designated in writing by the issuing authority. The CAC should consider what "other public buildings," if any, should be specified. Also, consideration should be given to the potential needs of public buildings for more than one outlet, and how these should be provided.

43. Are there environmental considerations in construction?

Whether cable lines should be attached to pole lines used by the telephone company and the electric company, or required to be laid underground, is a policy issue. Generally, a cable company will follow the pattern of the utilities: where the other companies use pole lines, the cable company will seek attachment rights to these poles; and where the utility companies have underground ducts, the cable company will seek access to these ducts.

44. How are pole attachment charges determined?

They are determined by negotiation between the utilities--telephone or electric--which own the poles or ducts, and the cable licensee. The charges cover both

"make ready" (one-time, pre-attachment surveys), and annual rental fees. Prior to actual attachment, the licensee must receive formal approval from the board of aldermen or the city council in a city and selectmen in a town. The FCC has indicated it will seek to ensure that pole attachment rates charged by the telephone companies are not unreasonable or discriminatory.

(E) Capability of the distribution system including channel capacity, return capability and service potential to subregions of the proposed area(s) to be served.

45. What determines the channel capacity of a cable system?

Capacity is usually measured by the number of available channels (one cable channel is equivalent to one TV broadcast channel). The potential number of channels is determined by whether or not the system is built with a single, double, or triple trunk line, and whether a home converter is used. Current systems are constructed with a single or double trunk, often combined with a home converter.

46. Is there a difference between "potential capacity" and channels available for use?

Yes. Certain factors can reduce the number of usable channels below a system's potential capacity: for example, in areas close to television transmitting

antennas, some channels are subject to interference and are not of usable quality. Also, the cable operator may construct a second or "shadow" trunk which is not equipped for immediate use but available for future needs. In establishing criteria to measure the relative merits of different applications, the CAC should specify standards for the number of potential channels versus those available for immediate use. This should be done to avoid misleading comparisons.

47. Is there a minimum number of channels which a cable system must provide?

FCC regulations require that cable systems in the top 100 markets (applicable to almost all of Massachusetts) have a minimum capacity of 20 channels. The FCC states that this capacity may be actual or potential. (FCC 76.251(a)(1).) At the same time, the FCC specifies that for each over-the-air broadcast-TV signal carried by the cable system, an additional channel must be provided (also 6 MHz in width) for local origination, access channels, automated service, or various nonbroadcast uses. Thus, if a cable system proposes 12 over-the-air TV services, the operator must plan for a minimum capacity of 24 channels. (FCC 76.251(a)(2).)

Another FCC rule requires the expansion of "access"

channels. Whenever all such channels are in use during 80 percent of the time during any consecutive 3-hour period for 6 consecutive weeks, that system must make a new channel available within 6 months. (FCC 76.251(a)(8).)

48. Can an issuing authority change these minimums?

The FCC rule refers to the 20-channel capacity as the minimum in the top 100 markets. Clearly, an applicant may offer to provide more than 20 channels. The FCC has indicated, also, that the issuing authority may mandate greater channel capacity, if an adequate basis is shown. Particular consideration should be given by the CAC as to the problem of ensuring that the cable system can, and will, make available required additional channels, i.e., coupling the number of broadcast (i.e., TV retransmission) and nonbroadcast channels, and providing for additional access channels when these are used to capacity. This is not a simple issue if the system must rebuild or add extensive new plant. The costs can be substantial and are borne ultimately by the subscribers.

49. What services is a cable system, authorized after March 31, 1972, required to provide?

In the top 50 markets (which encompasses almost all of Massachusetts), the FCC requirements are as follows:

(FCC 76.61.)

(a) rebroadcast of all television stations operating in the market (extended to a radius of 35 miles);

(b) rebroadcast of all educational TV stations whose Grade B contour includes the market;

(c) rebroadcast of all stations "significantly viewed" in the county; and

(d) access channels: one for public use, one for educational use, one for local governmental use, and the remainder of the required bandwidth and any other available bandwidth for leased access channels; and

(e) a local origination channel (this requirement currently suspended).

50. What is an example of the channels required in a Massachusetts community?

For any cable system within 35 miles of the Boston-Cambridge-Worcester market, and within, for example, Suffolk County, these are the required TV channels:

(a) Broadcast channels--2, 4, 5, 7, 27, 38, 44, and 56 now in operation and others assigned to the market to be carried by the cable system when they become operative.

(b) Three access channels (other than leased)--One each for public, government, and education use.

(c) Leased channels, number depending on available channels--at least one for part-time leasing, and one or more for full-time leasing.

(d) One origination channel--if cable system has more than 3,500 subscribers, and if currently suspended FCC rule reactivated.

51. What other TV rebroadcast channels may be carried in the Boston-Cambridge-Worcester market?

A cable system may bring in from outside the market two "independent" (nonaffiliated) stations, any non-English speaking stations(such as Spanish, French, etc.), and additional educational stations (including those putting a Grade B signal over the community, and any other education station, unless an objection is filed by the local education station). (FCC 76.61(b)(2), (d), (e).) Carriage of such distant signals usually involves additional expenditures by the cable operator: for example, to bring in two stations from New York will require microwave service with monthly rental costs of about $1,000.

52. What is another example of the channels required in a community?

A cable system located in Springfield would be considered part of the Hartford-New Haven-New Britain-Waterbury market. The following are the TV channels which must be

carried by any Springfield cable system on request by the stations: TV channels 22, 40, 57 (Springfield-Holyoke), channels 3, 8, 18, 20, and 30 (Hartford-New Haven-New Britain-Waterbury). The cable system, though not required to, may also carry channels 2 and 44 (Boston) and two non-network stations from either the Boston-Cambridge-Worcester or Providence-New Bedford markets.

53. What is "return capability"?

This refers to two-way communication--for example, the ability of a subscriber to communicate over the cable from his home. There are a number of possibilities. A system can be set up so that a subscriber can communicate on a pushbutton "yes-no" (digital) basis, or a system could be constructed for voice communication. The most complicated system is one with audiovisual capability, so that a subscriber could be seen and heard over the system.

54. What is currently required in the way of return capability?

A cable system in a top-100 TV market must have built-in capacity to communicate on a digital, or pushbutton "yes-no" basis. (FCC 76.251(a)(3).)

55. Does return capability need to be available immediately?

No. Under the FCC rules, the requirement for nonvoice return capability can be met either by installing the necessary auxiliary trunk equipment or "installing equipment that could be altered to provide return services." (FCC report and order, par. 129.)

56. What are the potential uses for return capability?

Potentially, it can be used for such services as audience surveys, marketing services, burglar or fire alarm devices, educational feedback, gas meter reading, and in connection with pay-TV service.

(F) Plan for local origination capability including facilities, equipment, staffing and location of facilities.

57. What is local origination?

Any programming originated by the cable operator, as differentiated from retransmitting over-the-air broadcast signals, is included under local origination. The operator may produce his own program (such as coverage of local football games, local news, local interviews), or obtain the program from others (such as movie films).

58. May a cable company engage in local origination if it wishes?

Yes. Any cable system may engage in local origination

and sell advertising.

59. What rules are applicable to local origination?

Generally, the FCC has applied the same rules to local origination channels as apply to broadcast stations. These include: equality of opportunity for political candidates, the obligation to present all sides of a controversial issue of public importance (the so-called fairness doctrine), identification of sponsors, and the requirement to prevent obscenity, indecency, or lottery information from being transmitted. (FCC 76.205, 209, 221, 215, 213.)

Somewhat different from broadcasting is the limitation on the placement of advertising: these may be presented on the local origination channel at "natural breaks" in the programs and at the beginning and end. (FCC 76.217.)

It is important, also, to recognize the legal obligations of a local origination channel as opposed to those of an access channel. On an access channel (whether public, education, local government, or leased), the FCC prohibits any cable operator control over content, except for obscenity, indecency, and lottery information. On a local origination channel the cable operator is responsible for, and may censor, program content. (FCC 76.251(a)(9).)

60. May local origination include programs for which there are special charges (i.e., pay TV)?

Yes. Such programs may be presented either on a local origination channel or on a leased access channel. A subscriber is notified of the programs and the special fees, and chooses whether or not to take the service. The fees for this service are not presently regulated. Under FCC rules, a local authority may not prohibit pay TV. (FCC 76.225.)

61. Are there any FCC rules governing the facilities and equipment to be provided by a cable company?

The FCC requires that a cable system have available at least the minimal equipment and facilities necessary for the production of programs for the public access channel. These include a studio with adequate lighting, cameras, a film chain, and other facilities which would permit local production of programming. These facilities are not required to meet broadcast standards. (FCC 76.251(a)(4).)

62. What consideration should be given to the location of the studio?

Typically, a cable operator establishes a studio in conjunction with the local cable office in the community. Consideration should be given by the CAC as to the hours when the studio will be open for use, and

whether the studio will be conveniently located.

(G) Criteria to be employed in assessing the character, financial, technical and other qualifications of applicants.

63. What information will be supplied by the applicant on which to assess his qualifications?

Each applicant must complete the state commission's application form #100, which requires detailed answers on which to judge an applicant's qualifications. These relate to ownership interests of the applicant, costs and availability of funds, the proposed technical plan, and other pertinent information.

64. Who is to make the assessment of the applicants?

The issuing authority is to assess each applicant's qualifications in making its decision on awarding the license. The authority will do this after holding public hearings on the CAC's report and after the deadline for receiving all applications. (Mass rule, 4.2.)

65. How can the CAC aid the process of applicant assessment?

The CAC may consider listing the major points in assessing applicants such as: the past record of the applicant; previous experience and current availability of funds; the thoroughness of preparation evidenced by

an applicant; the rates and the adequacy of the proposed service; the degree of local ownership and of local management; the technical quality of the plant; and plans for keeping the cable system abreast of technical developments and of user requirements. The CAC may also wish to indicate the relative importance to be assigned to each of the various criteria.

(H) Plan for municipal cooperation with prospective licensee(s) including the availability of municipal facilities and coordination of municipally-sponsored activity in such areas as education, libraries, public safety, and service delivery.

66. How can the municipality assist in the provision of desired cable services?

The CAC should explore the extent to which community resources can tie in with a cable system. This involves discussion with representatives of schools, fire and police stations, hospitals, libraries, museums and other agencies. Perhaps there is a local municipal auditorium or TV equipment and facilities in the local schools which can be used by the cable operation.

(I) Coordination with contiguous issuing authorities to investigate the sharing of fixed costs and/or the

advisability of regionalization.

67. What can be gained through coordination with nearby issuing authorities?

Conceivably, there could be economies in the use of fixed plant (sharing of the headend, for example), a shared use of a particular service through interconnection of a particular channel (e.g., educational), and some economies in the use of personnel. A small community, or a community with scattered homes, may be able to attract cable service only if planned in connection with an adjacent larger municipality. Also, a community with above average per capita income, but of small size, might gain from coordination with a contiguous community.

At the same time, if coordination is being considered, the CAC should explore the disadvantages: potential conflicts in policies, favoring one community against another, and loss of control.

68. What is regionalization? What is its purpose?

Regionalization refers to the merging of two or more geographic areas (communities, counties, etc.), for the operation of a single cable system. It may make possible operation of a cable system when each community, by itself, is too thinly populated or otherwise economically unattractive. Regionalization may also permit the economic operation of more advanced cable systems

with high fixed costs, such as central computers and interactive (two-way) services.

(J) Plan for local supervision of the cable operator to include complaint and compliance procedures.

69. What local supervision is required?

The local authority will have various supervisory tasks in connection with cable service:

(a) To participate in the FCC certification of the licensee. The issuing authority or any citizen may support, or oppose the granting of the FCC certificate. Sometimes, the issuing authority must join with the applicant to obtain special license terms.

(b) To monitor the construction of the system to ensure that it is constructed in compliance with the license.

(c) To ensure that the cable operator avoids unnecessary damage to trees and to require restoration of any pavement or other improvement, if disturbed, in the construction of the cable system. (Chapter 166A, Sections 5(a) and (g).)

(d) To ensure that the cable operator maintains the system adequately and delivers the promised service.

(e) To establish criteria for the handling of subscriber complaints with provision for workable remedies in the resolution of any conflicts. Chapter 166A, Section 10 mandates a complaint system in which any person may

complain to the issuing authority and to the state commission. Every three months the cable operator must notify these agencies of complaints received and the actions taken to satisfy the complaints, including the time required to make necessary repairs or adjustments. However, further action may be necessary by the issuing authority to ensure equitable handling of complaints, and the general arrangement for doing so may be described in the license.

(f) To check on the cable operator's obligation to ensure nondiscriminatory hiring and employment practices.

70. What remedies are available if the cable operator fails to live up to the terms of the license?

Sections 11 and 14 of Chapter 166A spell out the conditions under which the issuing authority or the commission may revoke a cable license. However, revocation is an extreme penalty and is unlikely to be a suitable remedy for most disputes with a cable operator. Milder measures, such as monetary penalties specified in the license agreement, can be used to ensure compliance with the terms of the license. For day-to-day operational conflicts, an equitable system of adjustment and arbitration should also be considered.

(K) Plan for institution of equal employment opportunity practices.

71. What kind of a plan is needed in the license?

Hiring requirements must mesh with the FCC's antidiscrimination rules (37 Federal Regulation 6586, issued March 29, 1972). The cable operator is obliged not only to avoid discrimination but to take affirmative steps, to the extent practicable, to encourage training and employment of disadvantaged or minority-group personnel.

(L) Customer contracts, rules, regulations and charges.

72. What obligation as to customer contracts are included in Chapter 166A?

The cable operator cannot remove any television antenna of a subscriber, but must offer, at cost, a switching device which enables the subscriber to choose between cable television and regular antenna television. (Section 5(h).) The cable operator must notify subscribers of any transposition of the channels being used to rebroadcast television signals (e.g., if a local TV station broadcasts on channel 56 and is carried on the cable system as channel 8). (Section 5(i).) A pro rata credit or rebate must be given to a subscriber if his service is interrupted for 24 consecutive hours or more. (Section 5(l).) Also, the cable operator may

not engage in the business of selling or repairing television or radio sets. (Section 5(d).)

73. Who sets subscriber rates?

Until such time as the commission decides otherwise (after November 16, 1974), the issuing authority can regulate the rates and charges to subscribers. The basic monthly charge, however, cannot exceed seven dollars. (Chapter 166A, Section 15, Chapter 1103 of the Acts of 1971, Section 2.)

74. Can an issuing authority control connection charges, charges for second set services, disconnection charges, relocation charges, charges for pay TV?

Yes. A schedule of such charges may be included in the license with provisions made to allow necessary rate changes as circumstances warrant. Similarly, provision should be made to establish charges for added services. The policy of the state commission is that rate changes should be considered in a public proceeding.

75. Can rates vary as among different subscribers?

The issuing authority currently has considerable latitude in establishing rates. The only general mandate is that charges be nondiscriminatory and fair to the system and to the subscribers, a standard that will vary with the facts of each particular case. The subscriber

who lives more than some reasonable distance from the nearest feeder line may be required to pay a surcharge. Conversely, subscribers in densely-packed, multiple-dwelling units might pay less than those in single-family residences. Generally, the issuing authority may wish to relate any differences in rates to differences in costs.

(M) Access channels and terminal equipment.

For previous references to access channels, see Questions 47, 48, 49, 61.

76. Who pays for the access channels?

The cable operator must provide a public, education, and government channel free of cost for five years. He may charge for use of the leased access channels. (FCC 76.251(a)(10).)

77. Who regulates use of the access channels?

The FCC has stated that, except for the government channel, local regulation of access channels is precluded (FCC report and order, par. 131). The cable operator is required to promulgate rules for access services, and these must be kept on public file at the cable system and with the FCC. (FCC report and order, par. 134.) Hence, the specific conditions for use of particular channels is to be determined by the cable system itself,

subject to FCC review.

78. May the issuing authority require more than one specifically designated access channel?

Generally, the answer is no. The FCC has stated that absent a special showing it will not deviate from its minimum standards on the number or use of the access channels. However, it added: "where the cable operator and franchising authority wish to experiment by providing additional channel capacity for such purposes as public, educational, and government access--on a free basis or at reduced charges--we will entertain petitions and consider the appropriateness of authorizing such experiments, to gain further insight and to guide future courses of action." (FCC report and order, par. 132.) In a footnote, the FCC cautioned franchising authorities against encouraging contests or making selections based on the "barter of extra channels." As described in Question 47, the FCC has established a formula for requiring additional channels, when those available exceed a certain level of usage.

79. Who pays for the studio facilities, personnel, equipment, and other costs incurred to program the access channels?

For the public access channel, the cable operator must provide studio and production facilities, and may not charge the public for live studio presentations of five

minutes or under. (FCC 76.251(a)(4), (10) and (11).) For the other access channels, he is not required to furnish equipment, staff, or facilities.

80. What can the educational access channel be used for and who will decide how it is to be used?

The purpose of the educational channel is to give local educational authorities a free channel for instructional programming and other educational purposes. The FCC's rules provide no standard for determining qualified "local educational authorities" or allocating time among their use. The cable operator is responsible for administering the channel, and must include pertinent rules when he applies to the FCC for a certificate of compliance. The CAC may consider the desirability of proposing a special board to assist the cable operator in setting policy for the administration of the channel, particularly where there are likely to be competing public and private schools interested in the use of the free channel. (See study for the Massachusetts Advisory Council on Education, September 1973, listed in Appendix 3.)

81. What can the local government access channel be used for and how is it to be controlled?

The local government channel offers an opportunity for local officials to communicate with and involve

citizens in an unprecedented way. For example, the channel may carry city council meetings, debates, programs on local political issues, discussions, and interview programs. Control is left in the hands of the local issuing authority, unlike the use of the other access channels. (FCC 76.251(a)(11), (iv).) The issuing authority has the responsibility of developing appropriate policies and arbitrating among users, with awareness of First Amendment rights. The CAC should consider the desirability of identifying an individual or group to determine the rules of access. As with the education channel, the cable operator is required to provide a free channel but not production equipment or personnel. (FCC 76.251(a)(10).)

82. What is the public access channel for, and who can use it?

The public access channel is for the use of anyone on a nondiscriminatory, first-come, first-served basis. (FCC 76.251(a)(4).) The cable operator must provide studio facilities for this channel (FCC 76.251(a)(4)) and cannot make any charge for a live studio presentation not exceeding five minutes. (FCC 76.251(a)(10), (ii).) Rules for the public access channel to be established by the cable operator must be kept on file in the cable system's headquarters and must preclude

advertising, lottery information, and obscene or indecent matter. (FCC 76.251(a)(11), (i) and (iv).) Other than these restrictions, a cable operator may not censor or control program material on the public access channel. (FCC 76.251(a)(9).) A public record must be kept for two years of the names and addresses of persons seeking time on the channel. (FCC 76.251(a)(11), (i).)

83. What are the rules governing leased access channels? The cable operator is responsible for specifying the rate schedule and regulations ensuring first-come, nondiscriminatory access. (FCC 76.251(a)(11), (iii).) The cable operator may not censor any programming (except for the usual prohibitions on obscenity and lottery information). (FCC 76.251(a)(9).) Advertising is allowed, with sponsor identification. The names and addresses of users must be kept on file for two years. (FCC 76.251(a)(11), (iii).) At least one of the leased access channels must be available for part-time users. (FCC 76.251(a)(7).) The CAC should give particular attention to ensuring that the license encourages the cable operator to engage in leasing, thus stimulating competition and the expansion of cable services.

(N) Rights of privacy.

84. How does cable create privacy problems?

There are two types of potential privacy problems: As with the telephone, a cable connection in the home can be "bugged," though on systems with only one-way capability this would be unlikely. A different problem arises from the two-way capability of cable which even on a nonvoice, digital basis permits the results of individual subscriber polling and information on viewing habits to be collected by the cable operator without wire tapping. With the development of future cable services, including home shopping, and communication with hospitals, libraries, and banks, the cable operator and cable lessees will have available to them increasing information about individual households.

85. Does Chapter 166A deal with the problem of cable tapping?

Yes. Section 21 makes it a criminal act for any unauthorized person to attach a wire, cable or any other device to the transmitting units of a cable system. The punishment is a fine or imprisonment or both.

In addition to prohibiting interception of communication by cable, this section would be applicable to anyone

who "pirated" cable service by attaching to a system without payment.

(O) Rights to information.

86. Is there any protection to the subscriber against disclosure of the information obtained by the cable system in the course of its business?

To the extent that the cable system offers a polling or any other service which involves active subscriber response, the subscriber may determine whether to participate, and, if so, under what conditions. In those circumstances in which the cable system may acquire information about a subscriber without his specific consent (as, for example, a device which automatically informs the headend that a particular subscriber is tuned to a particular channel), a different problem is posed. The CAC may wish to consider the desirability of a license provision requiring the cable system to inform all subscribers whenever equipment is installed on the system that monitors the individual subscriber.

87. What is meant by the phrase "rights to information"?

Obviously, for the cable system to function, the operator must have certain information about each subscriber, including name, address, etc. Currently,

there is no legal prohibition on the right of the cable operator to turn over lists of subscribers to others. In fact, such information is needed by any party who seeks to rent leased access channels to provide special services, sometimes in competition with the cable operator. He needs to know potential customers to determine the feasibility of leasing channel space. The CAC might consider establishing a general policy that lessees of cable access channels will have the same rights and be subject to the same restrictions.

NOTE: THE ABOVE CONCLUDES THE QUESTIONS AND ANSWERS PERTAINING TO THE 15 SPECIFIC POINTS THE CAC MUST CONSIDER IN ITS DELIBERATIONS.

88. What should be included in the final report of the CAC?

The report must include the following:

(a) Summary of the specific steps taken to educate the public about cable and insure maximum public participation in the licensing process.

(b) General assessment of the community's cable needs.

(c) Written policy recommendation on the items "A" through "O" discussed earlier.

(d) Recommendations on any other items. (Mass. rule, 2.2.)

(e) Independent reports of any residents or other interested parties, as addenda to the CAC's report (costs to be borne by the party submitting the report). (Mass. rule, 2.4.) The report may include a draft of a specific license contract, based on the above.

89. May a cable advisory committee be continued after completing its report?

Yes, if the issuing authority so determines. The committee may be helpful in the final assessment of applicants and in the subsequent regulation of a cable system.

90. What happens to the CAC's report when it is completed?

The issuing authority is to hold public hearings on the CAC report. Public notice of the hearings must be given, and citizens must be able to see a copy of the CAC report before the hearings. At the hearings, everyone must be given a fair opportunity to be heard. (Mass. rule, 3.1.)

91. Then what?

After the hearings, the issuing authority is to issue its own report. (Mass. rule, 3.1.) The authority's report should consider the CAC's report, material from other parties, and information from the public hearings. The issuing authority should cover each item of the

CAC's report and any other relevant item. The authority's report must be available for public inspection and copying. (Mass. rule, 3.2.)

92. Is the authority then ready to evaluate applicants? Not quite. First, the authority must invite anyone who filed an application to submit a response to the authority's report. (Mass. rule, 3.2(a).) That response can include any changes in a previously filed application. Next, the authority must advertise for additional applications. (Mass. rule, 3.2(b).) A deadline must be set for these responses and for new applications. (Mass. rule, 3.2(c).) On the day after this deadline, the sealed responses and new applications are to be opened for the first time and made public. (Mass. rule, 3.2.) Now the provisional licensing procedure can begin.

Stage III: Provisional License Procedure

93. What is the first step in the procedure?

A public hearing must be held by the issuing authority to assess the qualifications of each applicant. Notice must be given of the hearing, of the public availability of the issuing authority's report, and of the applications on file.

The issuing authority shall have a stenographic or tape recording made of the proceedings, the cost to be borne by the applicants. (Mass. rule, 4.1.) Within a reasonable time, and in any event within the time period prescribed by the state commission (a period of 12 months in cities or towns of less than 50,000 residents, and 18 months in others computed from the official start of the licensing process), the issuing authority shall either approve or disapprove each applicant. Concurrently, the issuing authority shall grant a provisional license to each approved applicant (Mass. rule, 4.2), and shall issue a written public statement setting forth in detail the reasons for the decision. (Mass. rule, 4.6.)

94. What is a provisional license?

It is a license granted to an applicant who must demonstrate that he can comply with all the terms of the license and is ready to build the system. The procedural

regulations of the state commission specify under Section 5.1(a)-(p) each of the items that require substantial compliance. If the provisional licensee can demonstrate to the issuing authority substantial compliance with these items, the provisional licensee shall receive a final license, absent intervention by the state commission or the courts. (Mass. rule, 5.1.)

95. When can appeals from the decision of the issuing authority regarding a provisional licensee be taken to the Massachusetts commission?

Immediately after the issuing authority has selected the provisional licensee(s), the applicants or a specified number of citizens in the community (10 percent of the local taxpayers or registered voters) may appeal to the state commission. (Chapter 166A, Section 14.) Similarly, an appeal can be taken to the commission when the issuing authority decides that a provisional licensee has failed to comply with the stated requirements, or, contrarily, if the issuing authority grants a final license. (Mass. rule, 4.4.)

96. Why is a provisional license granted before a final license?

The idea behind a provisional license is to let the applicant know that he has been selected, and that he must now demonstrate that he can live up to the promises

he has made. This procedure tries to deal with situations where an applicant promises something in his application he later finds he cannot deliver. Two courses are available if that should occur:

(a) The issuing authority may negotiate with the provisional licensee to change any terms of the application before writing the final license.

(b) The issuing authority may find that a provisional license cannot meet his promises and therefore refuse to grant him a final license.

97. Can more than one provisional license be granted?

Yes, since licenses are nonexclusive. (Chapter 166A, Section 3.) However, in most communities it is not practicable to have duplicating cable systems.

98. How long does the provisional license period ("compliance period") last?

The issuing authority sets a date by which each provisional licensee must meet the requirements to get a final license. If the requirements are met, the issuing authority grants a final license. If the requirements are not met, the issuing authority may refuse to grant the final license. (Mass. rule, 4.3.)

99. Can a provisional license be transferred?

As a general rule, a provisional license cannot be transferred in any manner whatever, nor can control of an entity holding the license be transferred. An exception occurs in some instances in case of death or disability. In such a case the issuing authority must give its prior approval in writing to any transfer, and must find the transfer is necessary and in the public interest. (Mass. rule, 4.7.)

100. What determines if "control of an entity holding the license" is being transferred?

The Massachusetts procedural regulations (Mass. rule, 4.7) give examples of what constitutes transferring control:

(a) if an individual stockholder gains or loses affirmative or negative control. (Affirmative control consists of control by more than 50% of the voting stock; negative control consists of control of exactly 50% of the voting stock.)

(b) if a family group or an individual in a family group, or any other group in priority gains or loses affirmative or negative control.

(c) if a provisional licensee gives up sole responsibility for the operation, control over the development of the cable system, policy decisions, hiring and supervising

personnel, or for payment of financial obligations related to the cable system.

101. Can the transferor of the provisional license be reimbursed?

If the issuing authority allows a transfer, the transferor can only receive the sum he reasonably expended in the process of getting the license, and of preparing the cable system for operation. (Mass. rule, 4.7.)

The intent of this rule is to prevent "trafficking" in licenses, i.e., obtaining licenses not for use, but for resale at a profit.

102. Should a "back-up" provisional licensee be designated to meet the contingency of possible refusal by the issuing authority to grant the final license?

No. The intent behind the provisional license is that if the licensee shows he can comply with the requirements he is entitled to a final license.

103. Does the issuing authority have to grant any provisional license?

No. The authority may disapprove all applications and grant no license at all.

Stage IV: Final License

104. What happens before a final license can be issued to a provisional licensee?

From the time the provisional license is granted until the date set for issuing the final license is the "compliance period." During the period the provisional licensee must meet specific requirements to show he is ready to be granted a final license. (Mass. rule, 5.1.) If at any time during this period the issuing authority or the provisional licensee desires a public hearing, a hearing must be held. A hearing may be held to inform the public that the provisional licensee is not meeting the requirements or that the issuing authority has unfairly decided the provisional licensee has failed to meet the requirements. (Mass. rule, 5.2.)

105. What are the criteria for a final license?

Its terms must be in compliance with Section 5 of Chapter 166A and are substantially identical with the terms of the provisional license. The issuing authority may modify the provisional license terms in granting the final license, if the authority explains in writing the reasons for the change.

106. If the issuing authority does not grant a final license, what is the next step?

The provisional licensee has 30 days to appeal to the state commission. (Mass. rule, 4.4.) If the commission upholds the refusal to grant the final license, the issuing authority may designate another provisional licensee from those applicants previously considered, or it may reinitiate the entire licensing process. (Mass. rule, 4.5.)

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PART IV

DOCUMENTS

Massachusetts General Laws, Chapter 166A

Massachusetts Procedural Regulations for Granting Community Antenna Television Licenses

Massachusetts General Laws, Chapter 166A

Massachusetts Procedural Regulations for Granting Community Antenna Television Licenses

PART V

APPENDIXES

Appendix 1. Flow Chart Analyses

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Appendix 3. Resource List

Appendix 4. Glossary

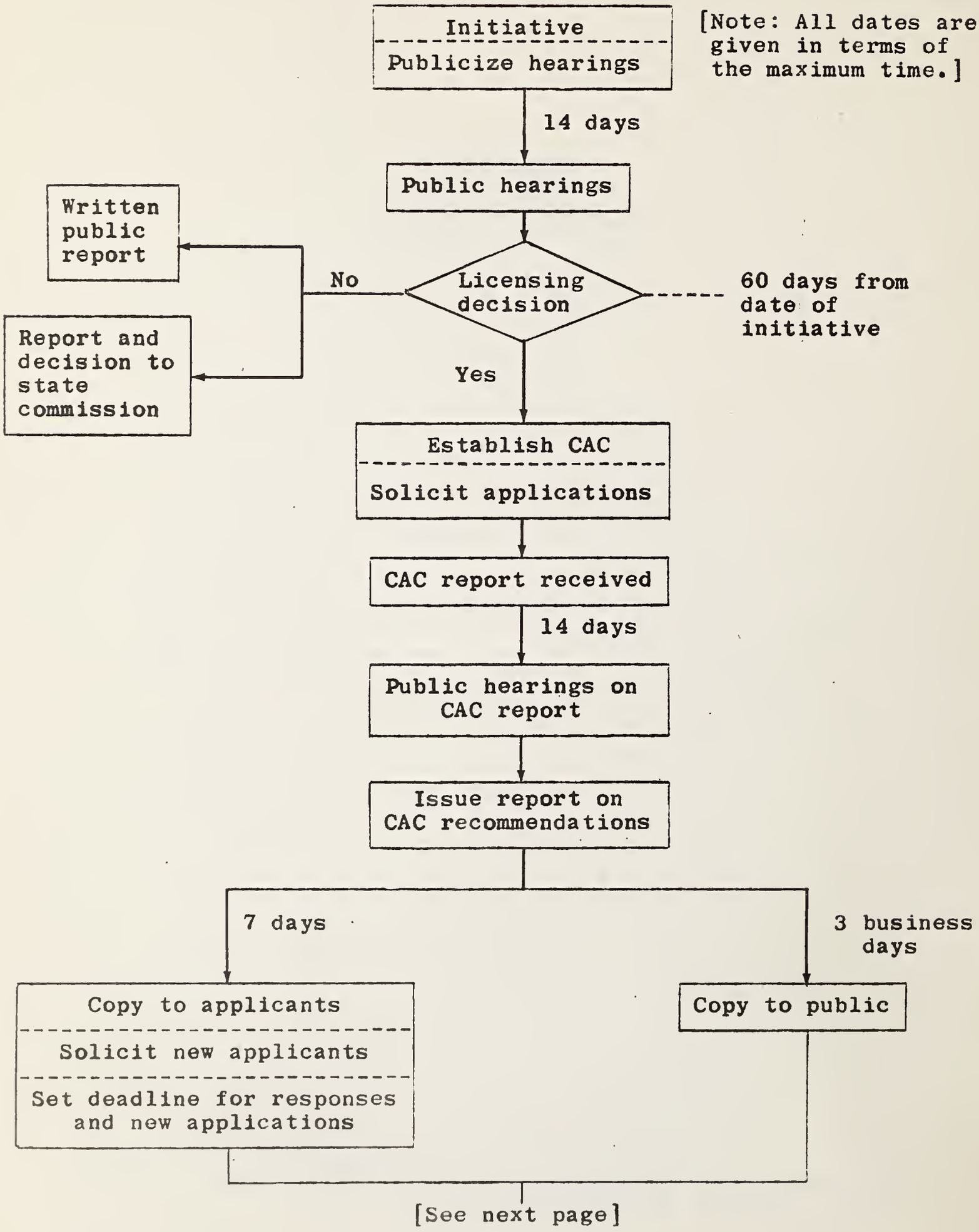
Appendix 5. Index

Appendix 1

FLOW CHART ANALYSES

Reprinted by permission of Whitewood Stamps Inc., 61 Chapel Street, Newton, Massachusetts

Issuing Authority



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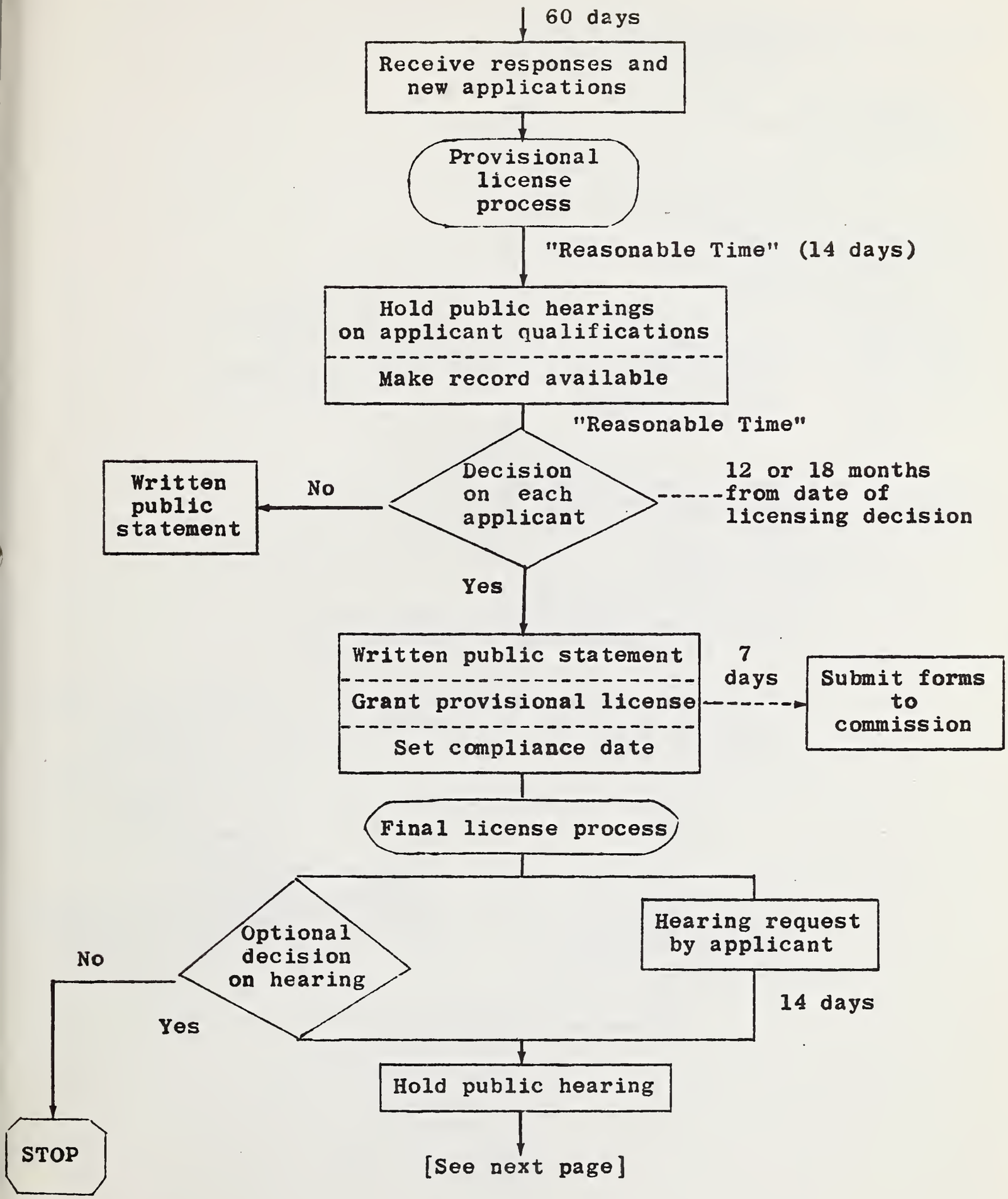

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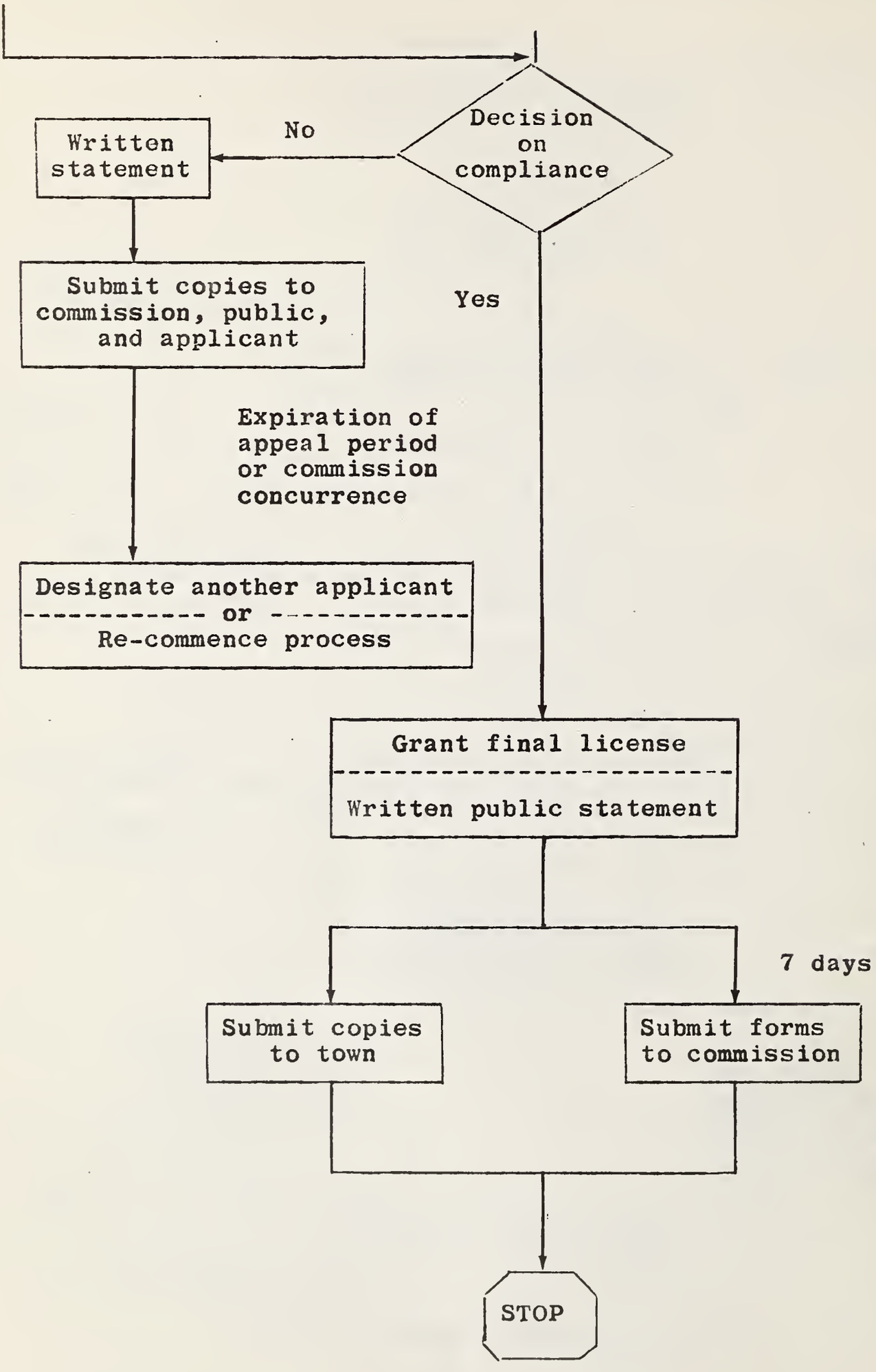
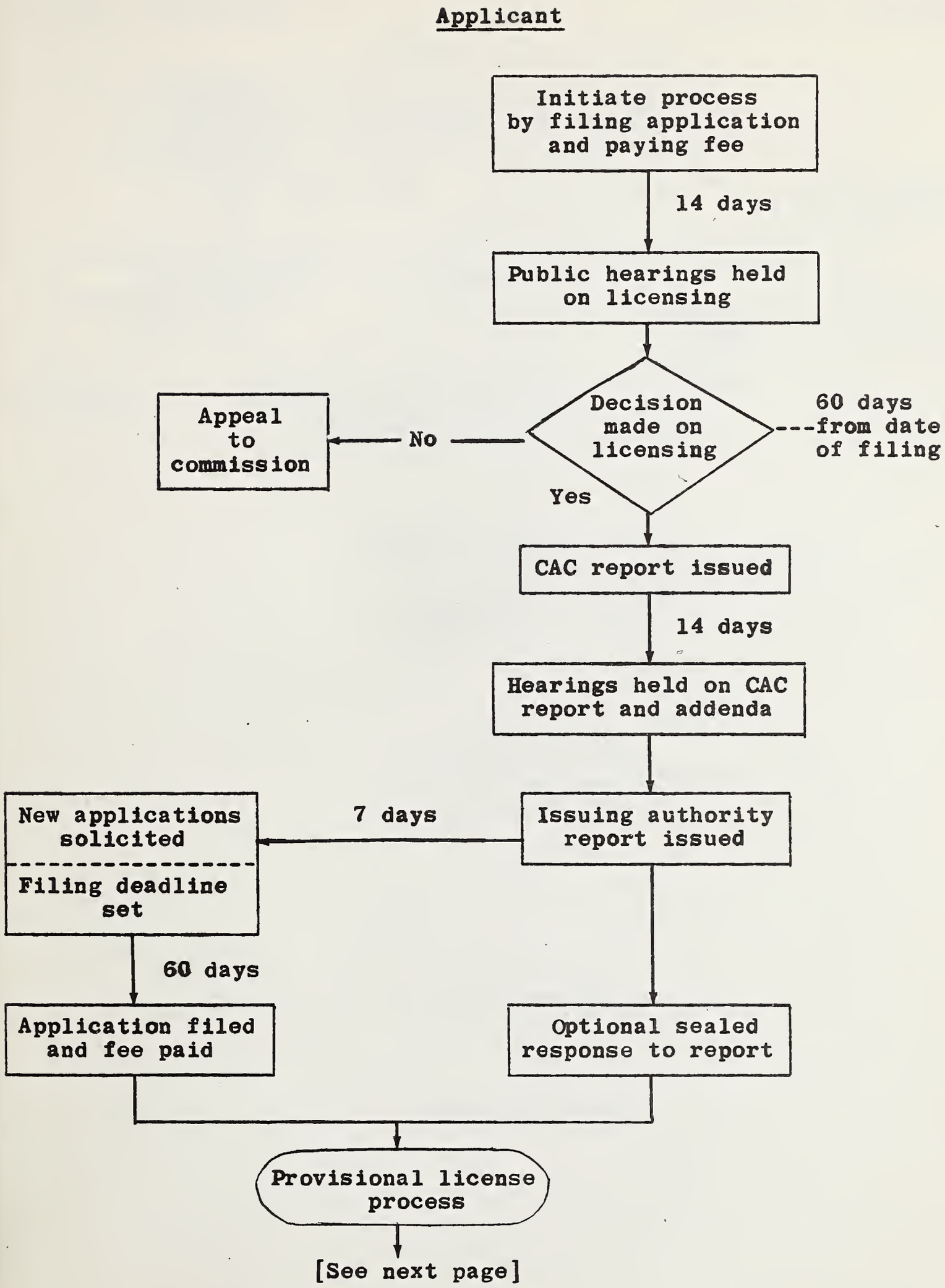
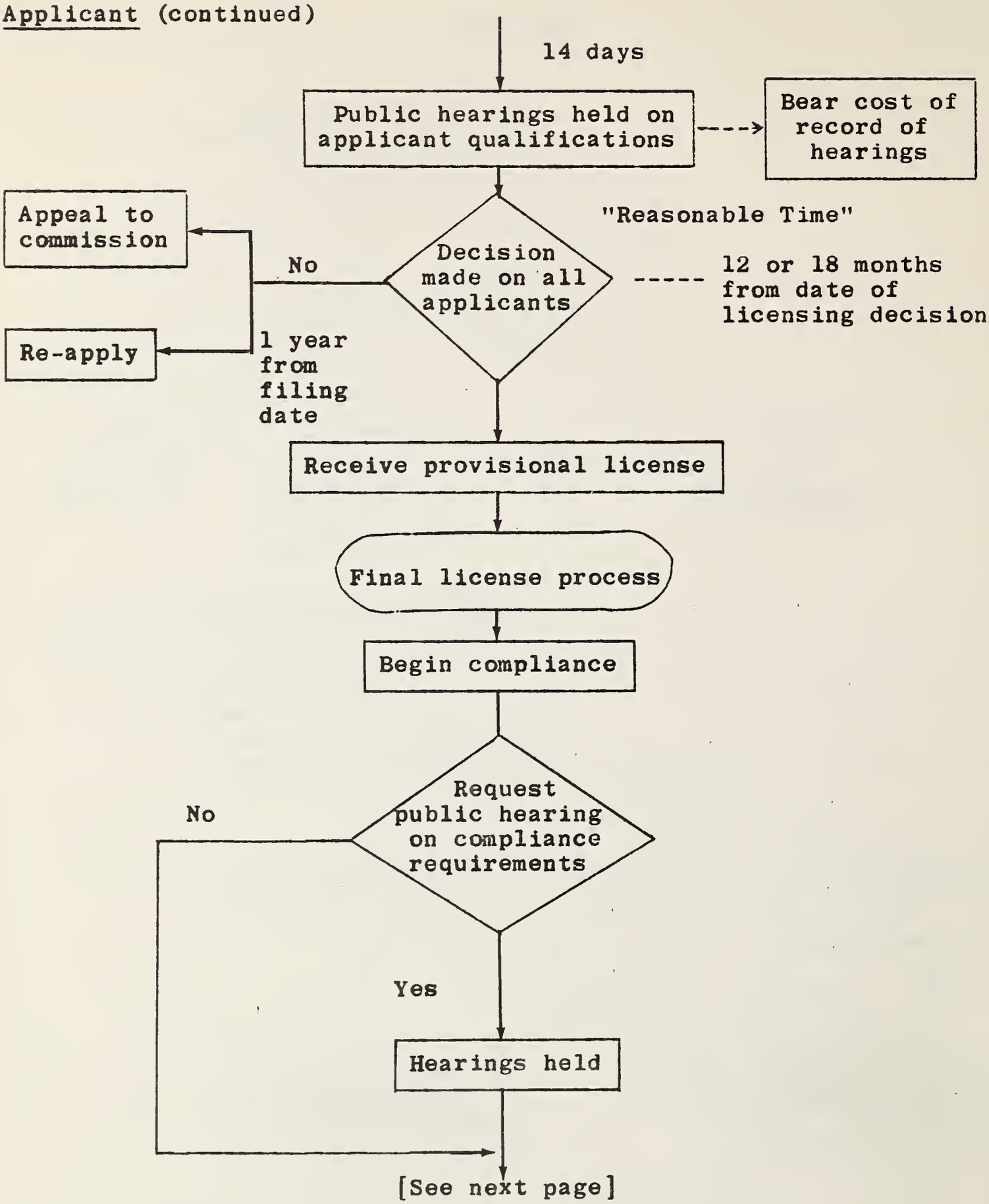
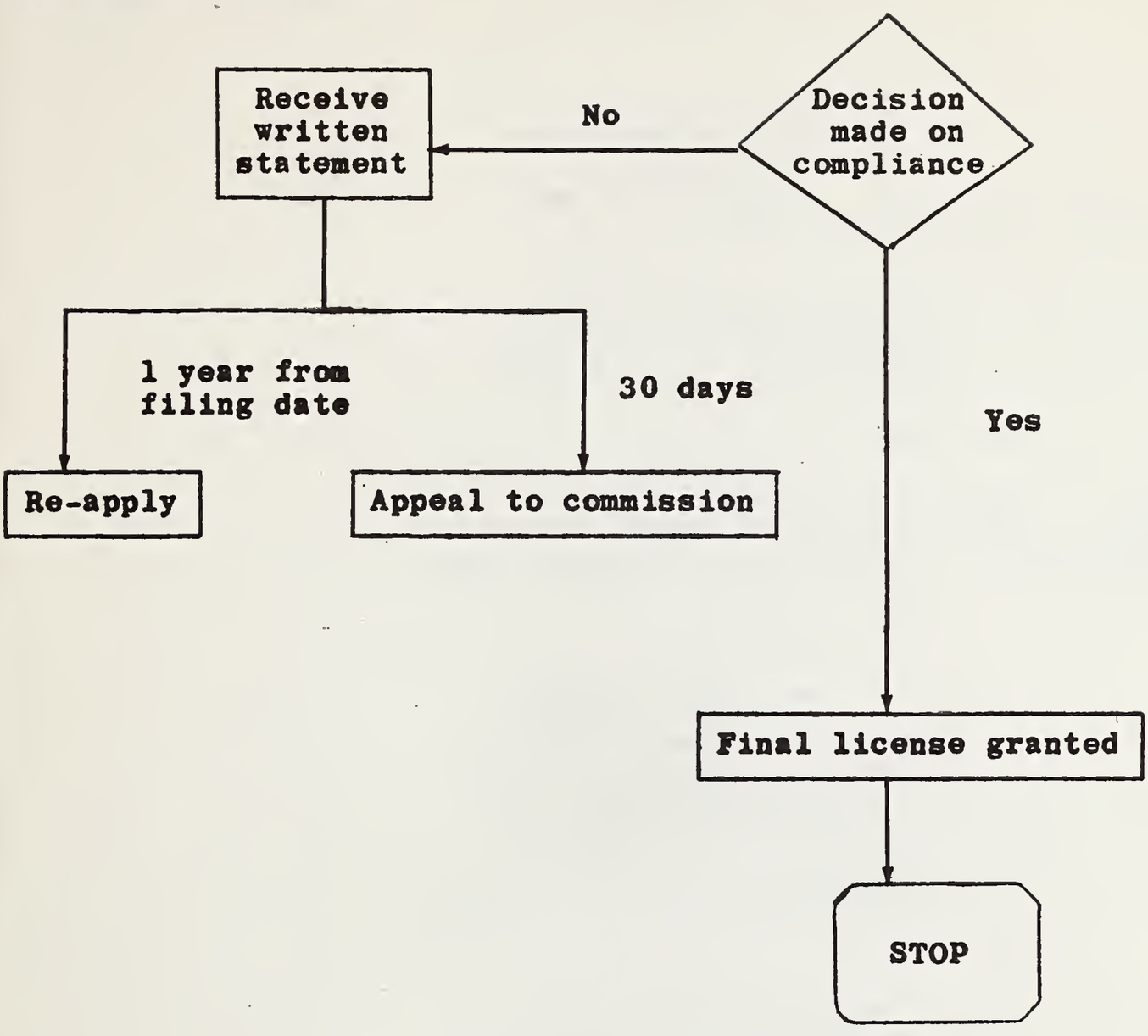



Applicant
Initiate process by filing application and paying fee
14 days
Public hearings held on licensing
Decision made on licensing
60 days ---from date of filing
No
Appeal to commission
Yes
CAC report issued
14 days
Hearings held on CAC report and addenda
Issuing authority report issued
7 days
New applications solicited
Filing deadline set
60 days
Application filed and fee paid
Optional sealed response to report
Provisional license process
[See next page]

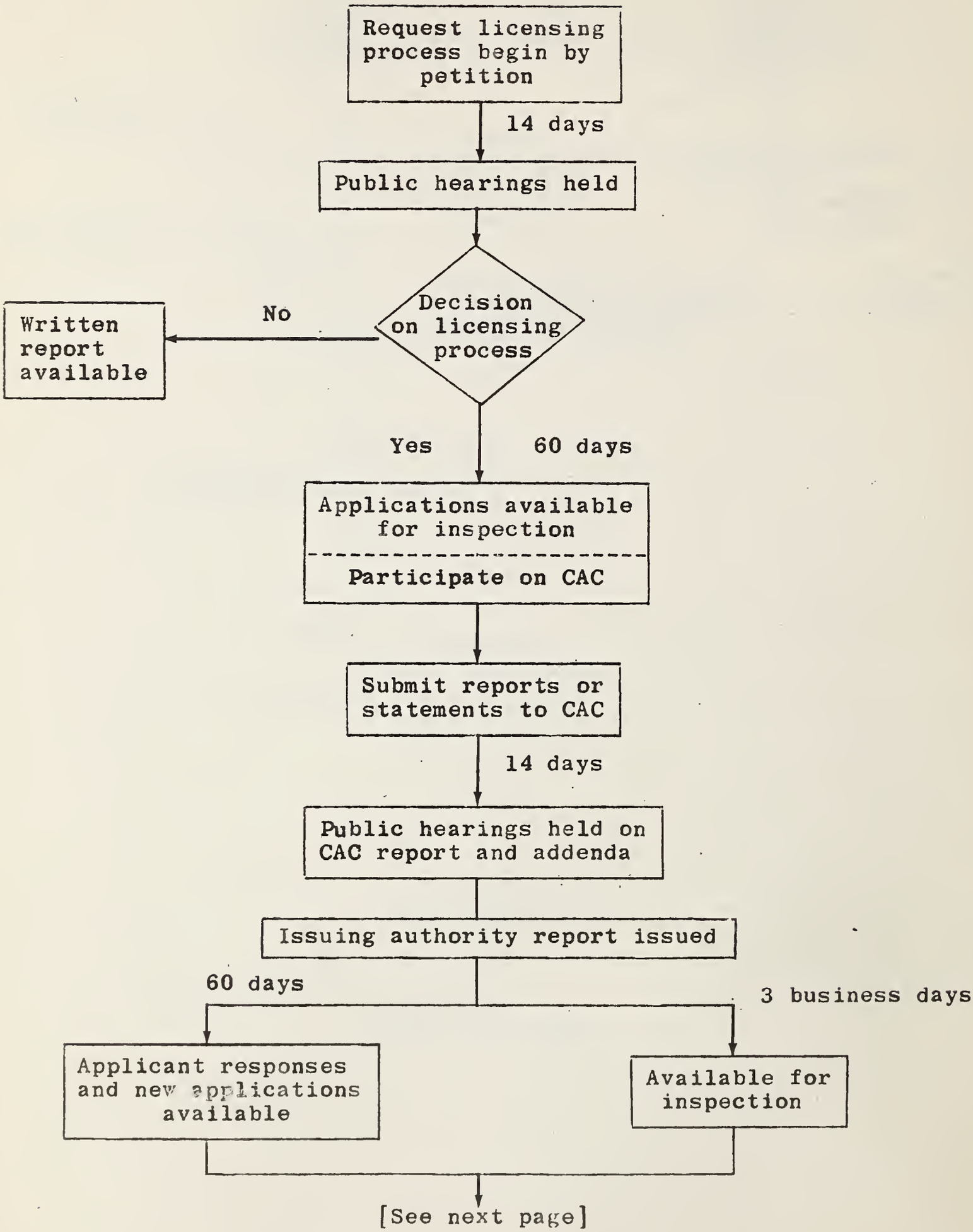
Applicant (continued)



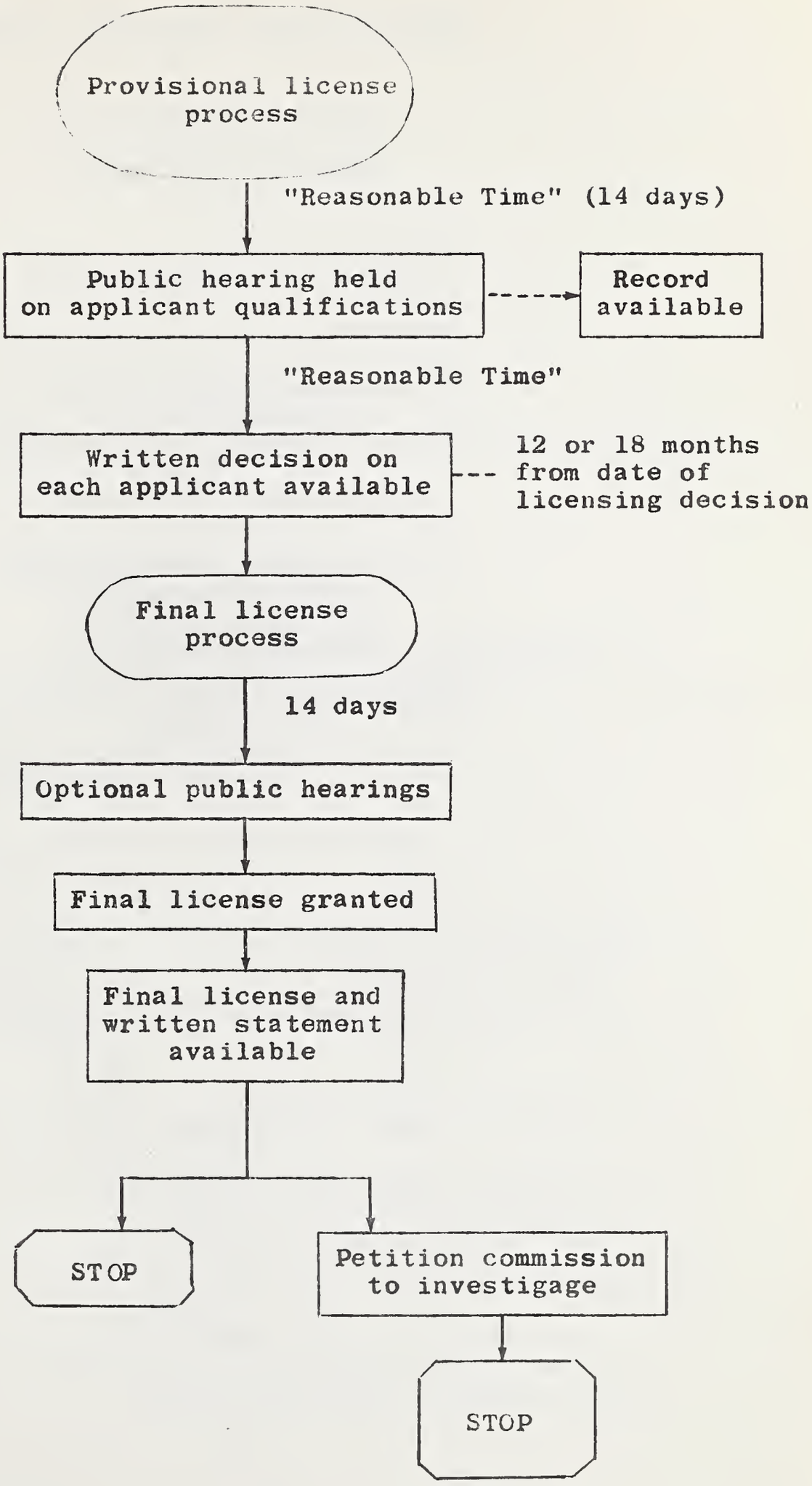
Applicant (continued)



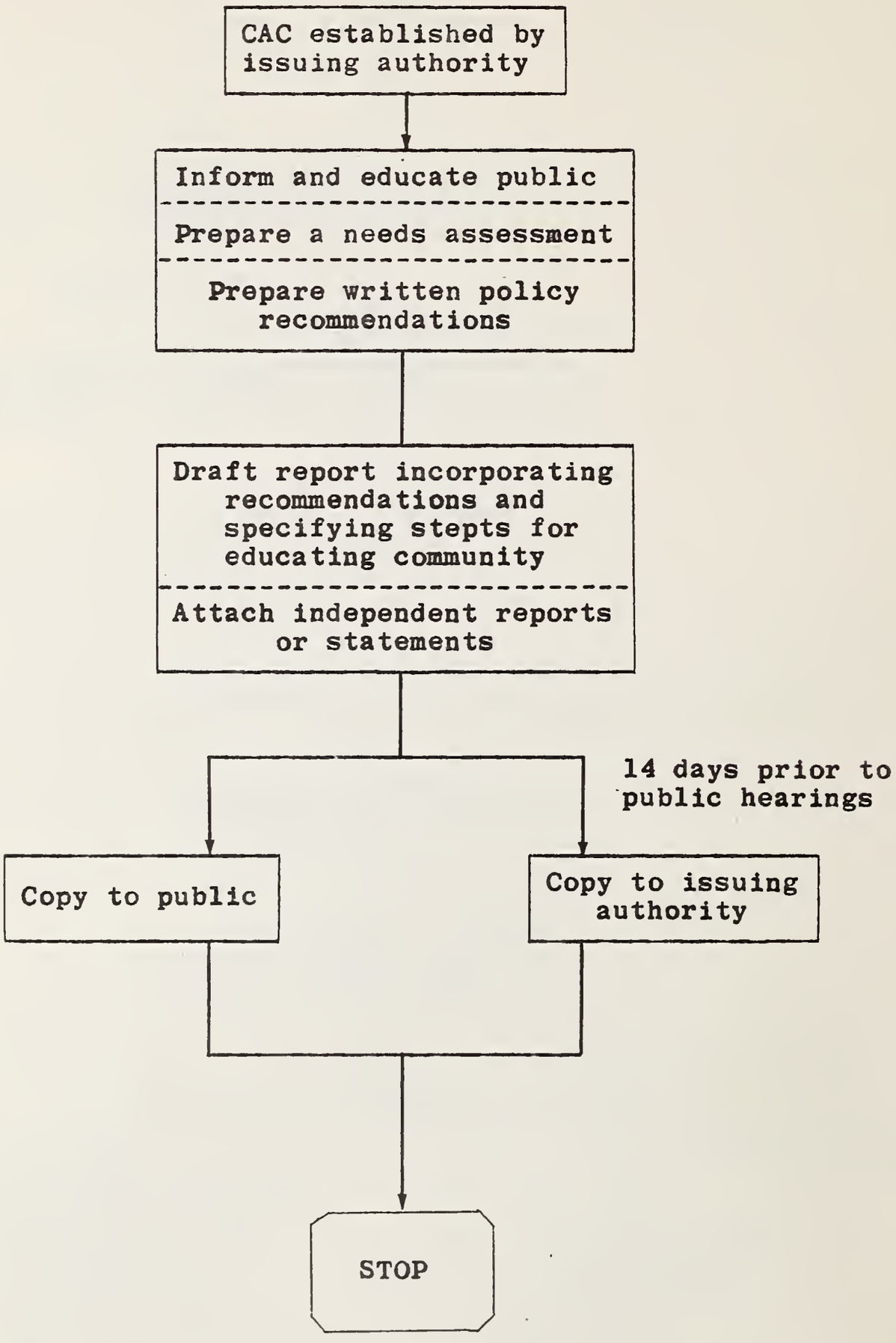
Public


Request licensing process begin by petition
14 days
Public hearings held
Decision on licensing process
No
Written report available
Yes
60 days
Applications available for inspection
Participate on CAC
Submit reports or statements to CAC
14 days
Public hearings held on CAC report and addenda
Issuing authority report issued
60 days
3 business days
Applicant responses and new applications available
Available for inspection
[See next page]

Public (continued)

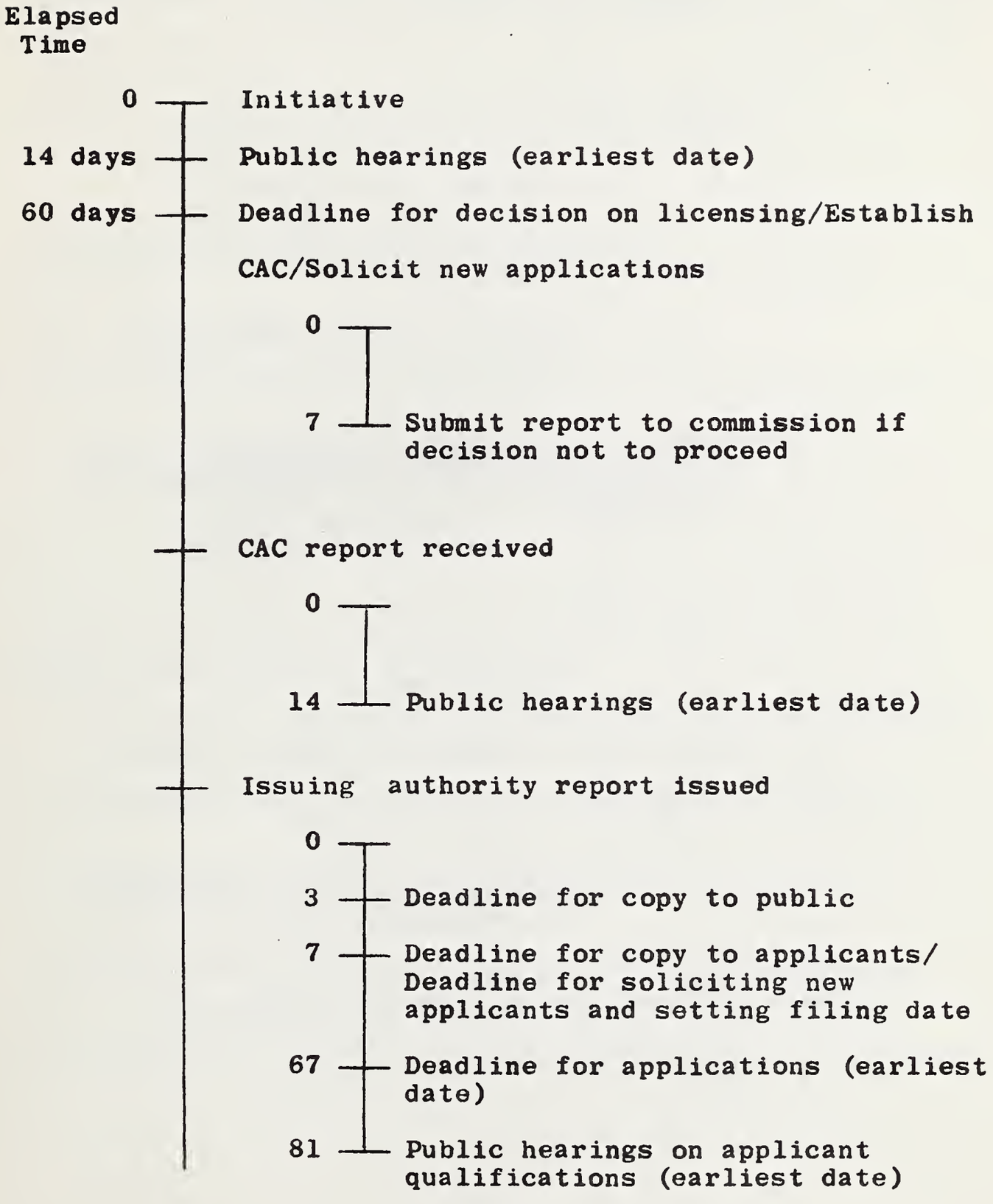


Cable Advisory Committee (CAC)

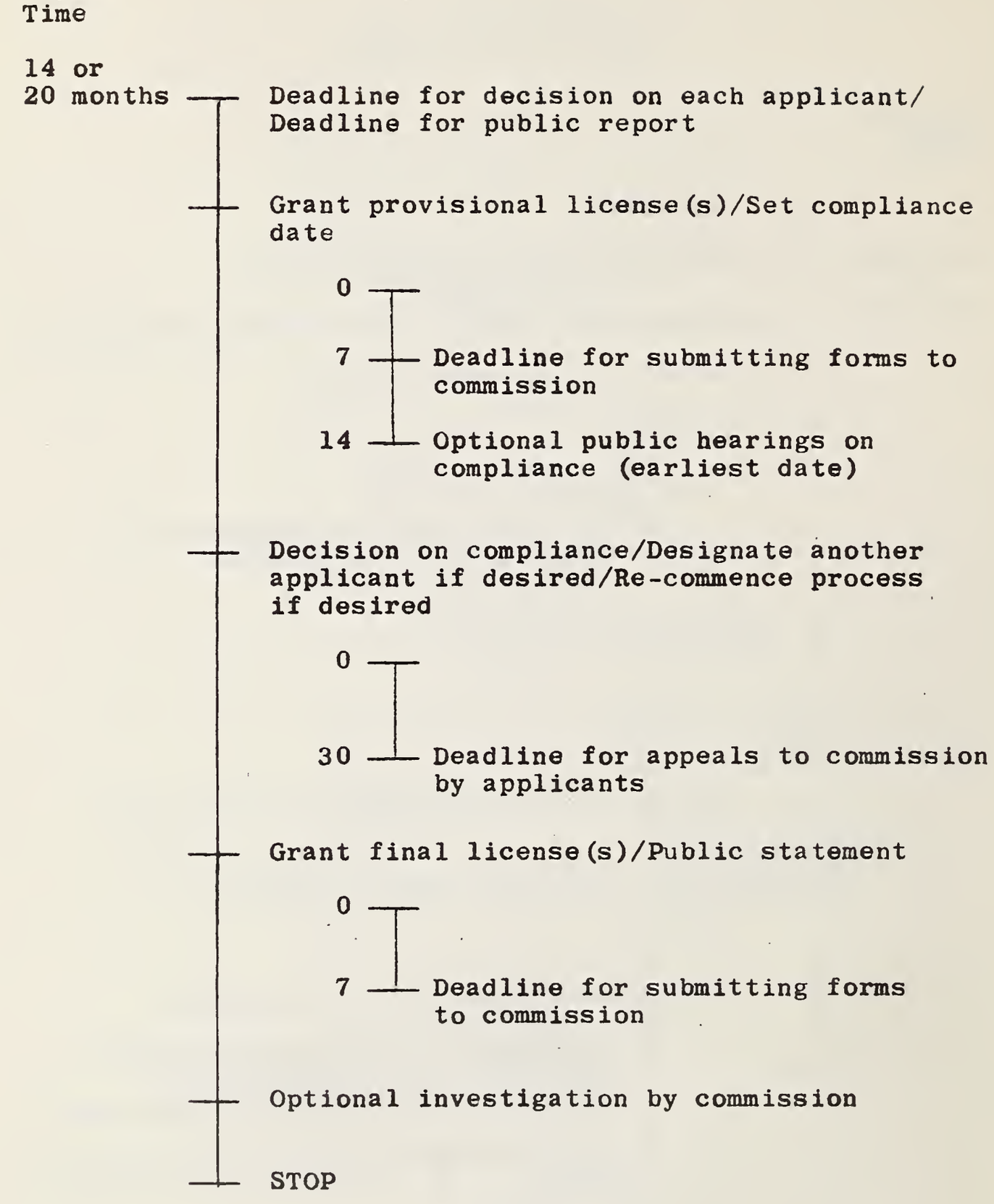

CAC established by issuing authority
Inform and educate public
Prepare a needs assessment
Prepare written policy recommendations
Draft report incorporating recommendations and specifying stepts for educating community
Attach independent reports or statements
14 days prior to public hearings
Copy to public
Copy to issuing authority
STOP

Appendix 2

TIME CHART ANALYSIS



TIME CHART ANALYSIS



Appendix 3

RESOURCE LIST

1. FCC Cable TV Rules in The Federal Register, Vol. 37, No. 30, Pt. 2 (additional rules are in Vol. 37, No. 136, Pt. 1):

   Bureau of Cable Television
   Federal Communications Commission
   1919 M Street, N.W.
   Washington, D.C. 20554
   Call (202) 632-6480

   (or contact the Government Printing Office in Boston: (617) 223-7566).

2. Further information on Massachusetts rules and procedures:

   Jeffrey R. Forbes, Executive Director
   Massachusetts CATV Commission
   100 Cambridge Street, Room 1209
   Boston, Massachusetts 02202
   Call (617) 727-6925

3. Series of Reports on Cable Television prepared by The Rand Corporation:

   R-1133-NSF A Handbook for Decisionmaking, by Walter S. Baer

   R-1135-NSF The Process of Franchising, by Leland L. Johnson and Michael Botein

   R-1136-NSF Citizen Participation in Planning, by Robert K. Yin

   R-1137-NSF Technical Considerations in Franchising Major Market Systems, by Carl Pilnick

   R-1138-NSF A Guide to Federal Regulations, by Steven R. Rivkin

R-1139-NSF Citizen Participation After the Franchise, by Monroe E. Price and Michael Botein

R-1140-NSF Applications for Municipal Services, by Robert K. Yin

R-1141-NSF A Guide to the Technology, by Carl Pilnick and Walter S. Baer

R-1142-NSF Making Public Access Effective, by Richard C. Kletter

R-1143-NSF Uses in Education, by Polly Carpenter

R-1144-NSF A Guide for Education Planners, by Polly Carpenter

Publications Department
The Rand Corporation
1700 Main Street
Santa Monica, California 90406

4. Assistance to municipalities is provided by the Cable Television Information Center, 2100 M Street, N.W., Washington, D.C. 20037. Established with foundation funds, the CTIC has issued pamphlets dealing with various aspects of cable licensing and regulations, and does research and consulting for municipalities at cost. Robert T. Sample is currently director for the Northeastern Region.

5. General discussions of cable:

   (a) On the Cable: The Television of Abundance. Sloan Commission Report on Cable Communications (New York: McGraw-Hill, 1971). $2.95.

   (b) Cable TV: A Guide for Citizen Action, M. Price and J. Wicklein. (Philadelphia: Pilgrim Press, 1972). $2.95.

   (c) The Wired Nation, Ralph Lee Smith. (New York: Harper & Row, 1972). $1.95.

6. Background information on cable in Massachusetts:

(a) Cable in Mass. 2. Founders Annex (Boston: Nimrod Press, 1972). $4.30.

Founders Annex Video
61 Chapel Street
Newton, Massachusetts 02158

(b) The Here, Now and Tomorrow of Cable Television in Education--A Planning Guide. A study for the Massachusetts Advisory Council on Education, September 1973.

(c) A Community Organizers Guide to Cable in Massachusetts. Media Project, Urban Planning Aid, Inc. $2.00.
(Copies available free or at reduced rate to nonprofit organizations.)

Urban Planning Aid, Inc.
639 Massachusetts Avenue
Cambridge, Massachusetts 02139

(d) Cable in Boston: A Basic Viability Report. Whitewood Stamps Inc., 1974. $10.00.

Whitewood Stamps Inc.
61 Chapel Street
Newton, Massachusetts 02158

Appendix 4

GLOSSARY*

ACCESS CHANNELS Three specified channels that the FCC rules require cable systems in the major markets to reserve for local uses--one for education, local government, and public access and the channels which must be provided for leased use. The education and government channels must be made available free of charge for at least five years. The free public access channel must be reserved indefinitely.

AMPLIFIER A device that boosts the strength of an electronic signal. Amplifiers are spaced at intervals throughout a cable system to rebuild the strength of television signals which weaken (attenuate) as they pass through the cable network. A bridger amplifier transmits signals from the trunk cable into each feeder cable, providing appropriate electrical isolation to prevent interference. A line extender amplifies signals in the feeder cable.

ANTENNA A device used to transmit or receive broadcast signals.

ATTENUATION Loss in television signal strength as it travels through the cable.

BANDWIDTH The difference between the lowest and highest frequency components that can be carried by a telecommunications system, measured in cycles per second or hertz (abbreviated Hz). For instance, voice transmission by telephone requires a bandwidth of about 3000 cycles per second (3 KHz). A TV channel occupies a bandwidth of 6 million cycles per second (6 MHz). Cable systems today utilize bandwidths up to about 250 MHz, usually from 50 to 300 MHz.

BROADBAND (or WIDEBAND) SYSTEM A communication system with a relatively high bandwidth. A broadband communication system can carry television signals and many other services.

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*Many of these definitions are taken by permission from A Glossary of Cable Terms, Cable Television Information Center, Washington, D.C., October 1972.

BROADCASTING Transmission of electromagnetic signals through the air, usually beamed in all directions over a broad geographic area.

CABLE ADVISORY COMMITTEE Citizens appointed by the issuing authority pursuant to the state commission's procedural rules to formulate the detailed terms of a proposed cable license agreement and to submit their recommendations to the issuing authority.

CABLECASTING Programming exclusive of broadcast retransmission signals carried on a cable television system; includes local origination by the cable operator and access programming.

CABLE TELEVISION (or CABLE COMMUNICATIONS) A communication system that distributes broadcast television signals, original programs, and other services by means of coaxial cable.

CARS (or CABLE TELEVISION RELAY SERVICE) An acronym for Community Antenna Relay Service, an FCC-authorized microwave frequency band for relaying television signals to cable TV systems.

CATV Community Antenna Television, an early and still popular acronym for what is now better described by the term cable television.

CERTIFICATE OF COMPLIANCE The approval of the FCC that a cable system must obtain before it can carry broadcast television signals.

CERTIFICATION OF PERFORMANCE A formal test of the cable system at the completion of each construction phase to ensure satisfactory operation and compliance with the terms of the franchise.

CHANNEL In television, a section of the electromagnetic spectrum 6 MHz (megahertz) wide, which carries a television signal.

CLOSED CIRCUIT TV A television system in which the receiving and originating equipment are directly linked by cable, microwave, or telephone lines, without broadcasting through the air. Usually applied to a television system used by a single organization.

COAXIAL CABLE Copper or copper-sheathed aluminum wire surrounded by an insulating layer of polyethlene foam, then by an outer conductor composed of tiny strands of braided copper wire or a seamless aluminum sheath, and finally by a protective outer jacket. By almost eliminating the generation of electromagnetic fields outside the cable, this construction reduces attenuation and gives cable its great signal-carrying capacity.

CONVERTER A device that changes a nonstandard broadcast frequency channel or a UHF channel to a standard VHF channel, enabling it to be tuned directly on the television set. Cable systems install converters when morethan 12 channels are distributed on a single cable. Converters also prevent interference from strong over-the-air signals.

CROSS-OWNERSHIP Any ownership interest (within limits set forth in FCC and Massachusetts CATV rules) in two or more kinds of communication outlets by the same individual or business. The FCC prohibits television stations and telephone companies from owning cable systems in their service areas. Television networks are prohibited from owning cable systems anywhere in the United States. Under Massachusetts statute and regulations, newspaper media and their affiliates are also ineligible to hold CATV licenses in their service areas.

DIGITAL SIGNALS Information transmitted in discrete pulses rather than as continuous signals. Digital signals on a cable television system are used principally to transmit data and messages, not television programs.

DIRECT INTERFERENCE (or ON-CHANNEL INTERFERENCE) A ghost image produced on a TV screen because the signal transmitted through the cable arrives slightly later than the signal received off the air.

DISTANT SIGNALS (or IMPORTED SIGNALS) TV signals that originate at a point too far away to be picked up by ordinary home reception equipment. Cable systems are limited by FCC rules in the number of distant signals they can offer subscribers.

DROP CABLE The coaxial cable that connects each building or home to the feeder line of the cable network.

DUAL CABLE Two cables installed side by side to carry different signals, thus doubling channel capacity.

EXCLUSIVITY A provision in a commercial television contract that grants exclusive playback rights for a film or other program to a broadcast station in the market it serves. Under the FCC's rules, cable operators cannot carry distant signals that would violate local television stations' exclusivity agreements.

FCC The Federal Communications Commission, the agency of the federal government that has authority to regulate cable television and other telecommunications systems.

FEEDER CABLES (or FEEDER LINES) Cable distribution lines that connect the main trunk line to the smaller house drops that lead into residences.

FILTER An electronic component that passes desired frequencies and rejects others. Filters are used in cable trunk and feeder lines for two-way or other special services.

FM (FREQUENCY MODULATION) A transmission technique in which the information to be transmitted is used to change the frequency of a carrier signal.

FRAME STOPPING TERMINAL (also FRAME GRABBER, or SINGLE FRAME TERMINAL) A device connected to a TV set that enables viewing of a still picture or a single frame of information instead of a motion video picture.

FRANCHISE or LICENSE A contractual agreement between a city (or county) and a cable TV system operator, defining the conditions under which the operator can install and operate a system.

FRANCHISING AUTHORITY (or FRANCHISOR) Governmental body responsible for specifying terms of a franchise, awarding it, and regulating the franchise holder (franchisee).

GHOST IMAGE A double or multiple image on a TV screen caused by two or more signals arriving at slightly different times (e.g., because of signal reflections from tall buildings). (See DIRECT INTERFERENCE.)

GRANDFATHERING Exempting a cable system from the federal rules regarding system and franchising requirements if it was in existence prior to March 31, 1972, is presently in operation, and serves 50 or more subscribers. The system must comply with the rules, however, within 5 years from that date or at the expiration of its current franchise, whichever occurs first, or if the system

introduces a new station or extends its service. In Massachusetts, a system in operation or granted a license or permit prior to November 16, 1973 is "grandfathered" and has a right to a "recertified" license.

HARDWARE The equipment involved in production, storage, distribution, or receiption of electronic signals. In cable television it means the headend, the coaxial cable network, the television receiver, and such production equipment as cameras and videotape recorders.

HEADEND The electronic control center of a cable television system--generally located at the antenna site. The headend includes preamplifiers, frequency converters, demodulators, modulators, and other related equipment that amplify, filter, and convert incoming broadcast TV signals for distribution over the cable system.

HERTZ (Hz) A measure of frequency, equivalent to cycles per second (cps). One Hz equals 1 cps; one Kilohertz (KHz) equals 1000 Hz; one Megahertz (MHz) equals 1,000,000 Hz.

HUB One of two or more interconnected headends that may be needed to provide cable service over a wide area.

INDEPENDENT STATION A commercial TV station that generally carries, in prime time, not more than 10 hours of programming per week offered by the three major national TV networks.

INTERCONNECTION Linkage of cable television headends by microwave or cable so that subscribers in different areas can see the same programming simultaneously.

ISSUING AUTHORITY The city manager of a city having a plan D or E charter, the mayor of any other city, or the board of selectmen of a town.

ITFS (INSTRUCTIONAL TELEVISION FIXED SERVICE) A special microwave frequency band allocated for over-the-air transmission of instructional television.

LOCAL ORIGINATION Programs originated by the cable operator.

MAJOR MARKET (or TOP-100 MARKET) One of the 100 largest television broadcast areas, ranked by the number of viewers.

MASSACHUSETTS COMMUNITY ANTENNA TELEVISION COMMISSION A body of seven Massachusetts citizens established in the Executive Office of Consumer Affairs. Appointed by the Governor, the commission is authorized by Chapter 166A of the Massachusetts General Laws and Chapter 1103 of the Acts of 1971 to review decisions of the local issuing authorities, to initiate investigations, to establish rates after November 1974, to issue rules and regulations, and to take other actions affecting community antenna television as authorized by the governing statute.

MICROWAVE RELAY Point-to-point, over-the-air transmission of signals at high frequency. Many cable systems receive some television signals from distant locations by microwave relay.

MULTIPLE-SYSTEM OPERATOR (MSO) A company that owns more than one cable television system.

NETWORKING Interconnection of a number of cable systems to permit simultaneous reception of the same program.

NONBROADCAST SERVICES Cable communication services other than retransmission of broadcast TV programs.

PAY TV A system of television in which subscribers pay for special programs or for access to a special channel. Pay-cable refers to pay TV on cable television, with subscribers paying an extra fee (over and above the regular monthly charges) to watch events such as first-run movies, sports programs, or educational courses.

PENETRATION (or SATURATION) The ratio of the number of subscribers to the total number of households passed by the cable system. Penetration in large part determines a system's profitability.

POLE RIGHTS An agreement between a cable television system and a power or telephone utility permitting the cable system to install coaxial cable on existing utility poles.

POLLING A technique used in two-way response services. A computer signals each subscriber's terminal in turn, via a special downstream channel, to send any messages he has upstream.

PROCEDURAL RULES The rules issued by the Massachusetts Community Antenna Television Commission on March 21, 1973 which mandate the procedures for determining whether a city or town will license a cable system, and, if so, the process for selection of a licensee.

PUBLIC ACCESS Uncensored access by the general public to speak or present program materials on cable television. The FCC rules require systems in the top-100 markets to set aside one free channel for public access on a first-come, first-served basis.

RECERTIFICATION Any person who, prior to November 16, 1971 (the effective date of Chapter 166A), received a license or permit for construction and operation of a CATV system or who had begun construction or operation is required to conform to the applicable provisions of Chapter 166A and to apply for a replacement license.

RFP (REQUEST FOR PROPOSALS) Document issued by a franchising authority for use by applicants competing for the franchise award. It states the proposed terms of the final franchise, and requests applicants to state their qualifications and proposals concerning any provisions left open in the franchise.

SHADOW TRUNK A trunk cable installed for later activation, not furnished with amplifiers and other accessories.

SOFTWARE Programming and programming materials such as films, videotapes, and slides. Also, the computer programming required for two-way and other services.

SPECIAL SHOWING Arguments and substantiating evidence required of the cable operator and franchising authority in cases where local franchise terms depart from the FCC rules.

STRAND (or MESSENGER CABLE) A steel cable used for mechanical support of the coaxial communication cable.

SUBDISTRICTING (or INTERNAL INTERCONNECTION) The provision of a number of interconnected districts within a franchise area, each of which can originate or receive separate programming.

SUPERTRUNK Large-diameter coaxial cable used in cable interconnection to reduce attenuation and signal degradation.

TAP The connection from the feeder cable to the subscriber drop cable.

TELEVISION TRANSLATOR A type of relay system that picks up signals from distant television stations, converts the signals to another channel to avoid interference and retransmits them into areas the original signals could not have reached.

TRUNK CABLE The major distribution cable used in cable television systems. Feeder cables branch out from the trunks.

TUNER A device that selects the desired signal from a group of signals.

TWO-WAY (or BIDIRECTIONAL) SYSTEM A cable television system that can carry signals in two directions, both downstream from the headend to subscribers' homes and upstream from subscribers to the headend. The FCC rules require new cable systems in the major markets to have the capacity for two-way digital communications.

UHF (ULTRA-HIGH FREQUENCY) The frequency band from 300 to 3000 MHz. It includes TV channels 14-83 (470-890 MHz).

VHF (VERY HIGH FREQUENCY) The frequency band from 30 to 300 MHz. It includes TV channels 2-6 (low VHF, 54-88 MHz) and channels 7-13 (high VHF, 174-216 MHz).

VIDEOTAPE RECORDER (VTR) A device that can record visual and audio information on magnetic tape for storage and later playback. The magnetic tape or videotape is sold in reels or cassettes in one-half, three-quarter, one-, and two-inch widths. Videotape can be erased and rerecorded.

Appendix 5

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